

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 702.—VOL. XIX.] LONDON, SATURDAY, FEBRUARY 3, 1849. [PRICE 6D.

Statutaries of Cornwall—In the Vice-Master's Court.

WHEREAS the VICE-MASTER did, by an ORDER, of DECEMBER, made in the above-mentioned cause, and bearing date the 7th day of November last, Order and Decree that a SALE be made of the ORES, HALVANS, and (if necessary) the ENGINES, MACHINERY, and MATERIALS, upon and belonging to TRENOW CONSOLS MINE, in the parish of FERRASUTENOR, within the said Statutaries, under the direction of the Registrar of this Court, and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the same Order or Decree.

Notice is hereby given, that, pursuant to the said Order or Decree, a PUBLIC AUCTION will be HOLDEN, at TRENOW CONSOLS MINE, on Friday, the 10th day of February next, at Eleven o'clock in the forenoon, for SELLING the undermentioned MINING MACHINERY—viz:

All that ONE 40-inch cylinder STEAM-ENGINE, of equal beam, 8-foot stroke, with its appurtenances complete, without boiler.

For viewing the same, application may be made to Mr. W. V. Morris, on the mine; Capt. Evans, St. Agnes; and for further particulars (if by letter, pre-paid), to Mr. Roberts, solicitor, Truro.

Dated Registrar's Office, Jan. 24, 1849.

NORTH FOWLEY CONSOLS MINE, in the parish of LANLIVERY, near ST. BLAZEY, CORNWALL.

IMPORTANT SALE.

The very excellent ENGINE, of 40-inch cylinder, on the above-named mine, nearly new, and pronounced to be a superior machine, erected under the chief superintendence of Mr. William West, together with all the MATERIALS, consisting of—

A boiler, 10 tons	Shaft tackle, complete
Capstan and shears	Whim-rope and chain
A horse-wheel	Whim kibble
60 Fathoms of 9-inch capstan-rope	4 Winze ditto and ropes
4 " 9-inch ditto	50 Fathoms of ladders
6 " 7-inch ditto	80 " launders and stands
3 " 8-inch working barrels	150 " slip-pipes
1 " 6-inch ditto	1 36-inch smith's bellows
4 Clackdoor-rocks	1 Anvil and vice
2 Windbars ditto	1 Screwing tools and block
12 Fathoms of main-ropes	Smith's tools
40 " Iron bucket-ropes	Miners' ditto
Strapping plates	Beam, scales, and weights
Bolts and nuts	Leather Barrows

A quantity of old and new timber, &c.

TO BE SOLD, in One Lot, by PRIVATE CONTRACT, or by public auction, in One Lot, previous to the 7th day of March next, of which at least one week's notice will be given, the ENGINE and MATERIALS will be SOLD on the MINE, BY PUBLIC AUCTION, in separate lots, on the 7th day of March next, to commence at Eleven o'clock forenoon.

Tenders for private contract to be made to the purser, Mr. Robert Dunn, at St. Austell; or the chairman of the committee, Mr. Ellis, of Falmouth; and for inspection, &c., apply to Captain Richards, on the mine, or at St. Blazey.

Dated January 30, 1849.

VALUABLE SLATE QUARRY, in CARMARTHENSHIRE.

TO BE LET, for such term, and on such conditions, as may be agreed upon, the RIGHT of WORKING a valuable ROCK OF SLATE, on the BLAENY-CWM-FRIDD, in the parish of PENMACHINE, upon which a large sum of money has been expended in driving a level, and in other works. The metal of this rock has been proved to be equal to that of the finest Penmachine Quarries, which lie in the vicinity. The undertaking would suit a joint-stock company or a private proprietor, as it can now be brought into early and extensive work, at a comparatively small outlay.

For particulars apply to Francis Holloway, Esq., National Provincial Bank, Doleghy; and to view the quarry, to Mr. Humphrey Williams, Blaen-y-cwm Farm, Penmachine.

CARMARTHENSHIRE—TO BE LET, OR SOLD, several SEAMS OF ANTHRACITE COAL and IRONSTONE, lying under the FARMS of OILERY, NEW INN, FOX, and ROSEFACH, situated in the parishes of LLANELLY and LLANGENDRIDE, in the said county. If required, the SURFACE also will BE DISPOSED OF.

The above property is within a short distance of the Kidwelly Canal, and distant from Pembrey Floating Harbour 3 miles, where the present demand for coal far exceeds the supply.

Further particulars can be obtained on application to Dr. Lawrence, Carmarthen; or to Mr. John Griffiths, Abergavenny, near Carmarthen.

Carmarthen, Jan. 30, 1849.

JAMES BOYDELL, LAND, MINE, AND MACHINERY

VALUER, AND AGENT.

No. 54, THREADNEEDLE-STREET, LONDON.

Has to DISPOSE OF a large quantity of STEEL and MANUFACTURED HARDWARE, now warehoused in London.

Several valuable PATENT RIGHTS, some of which have been profitably worked.

A FREESTONE QUARRY, in North Wales, from which, on account of its quality, the small cost of getting and working it, and its proximity to the sea, London may be supplied at lower prices than those now ruling for much inferior stone, and a large profit left to the proprietor.

An IRONSTONE MINE, likewise in North Wales, worked upon cost, close to a shipping port, and now in profitable work.

The LEASE of a very celebrated FOUNDRY and ENGINEERING ESTABLISHMENT, on the River Dee, complete with fixtures, machinery and tools, in working order, and ready for any parties to embark at once on building first-class iron steam-vessels, and marine and locomotive engines.

The above will be found worthy the attention of any parties desiring to invest money in a profitable business, as they will be disposed of upon terms which will ensure an unusual return to the purchasers of them.

J. BOYDELL has also at his DISPOSAL a RESIDENCE and LANDED PROPERTY in SHROPSHIRE, which is in a good neighbourhood, and which (a large portion of the land adjoining the house being of a most picturesque character, and well timbered, with a streamlet running through it) might be made a country residence for any nobleman or gentleman, such as but few in the kingdom would bear comparison with.

Particulars of the above may be had, upon application, at 54, Threadneedle-street.

TO MINERAL ESTATE PROPRIETORS, MINING COMPANIES, AND OTHERS.

Mr. C. S. RICHARDSON respectfully begs to inform the public, that being now engaged on a MINING SURVEY, in the EASTERN PART OF CORNWALL, would be happy to undertake the SURVEY of any MINE and MINING GROUND, in any part of the county, during the ensuing month. Plans and Sections of Underground Workings, drawings of, and Estimates for, every kind of Machinery, Reports on Mines and Mineral Estates, with illustrations, illustrated details, Prospectuses for New Companies carefully drawn up, and every assistance rendered, necessary to Mining Enterprises—charge most moderate.—Mr. C. S. R. further wishes to inform his friends, that he is prepared to undertake the ENTIRE WORKING of any MINE BY CONTRACT, according to a plan given, on due security of payment being entered into by the employers.

Apply (by letter) to the office, 6, Whitefriars-street, London; or to Mr. Thomas Carter, Callington; or Mr. Warner, St. Austell.

GREAT ST. JUST CONSOLS TIN AND COPPER MINING COMPANY.

These MINES are situated in the parish of ST. JUST, in CORNWALL, one of the richest mineral parishes in the county, and are bounded on all sides by rich and prosperous tin and copper mines—many of the lodes of which are known to run into these mines, the reports of the various mining captains, who have lately inspected the veins, speak of them in the most flattering and encouraging terms, and strongly recommend the working of them.

These reports are set out at length in the prospectus of the company, which can be obtained at the offices of the committee of management (which is already formed), No. 3, in-street, Bedford-row, London, where also every other information can be obtained, together with the form of application for shares, &c.

QUADALCANAL SILVER MINING ASSOCIATION.

SEVILLE. IMPORTANT INFORMATION having been RECEIVED from the COMPANY'S AGENT, under date of January 17th, the same will be OPEN to the REGULAR of the SHAREHOLDERS, at the office of the company, 34, Broad-street-buildings, daily, from Twelve to Four.

By order of the directors,
H. T. HYDE, Secretary.

TYN-Y-CEUNANT SLATE QUARRIES, TALLY-LYN, MERIONETHSHIRE.

In 4000 shares, or parts on the "Cost-book Principle."

Application for shares to be made on or before Thursday, the 15th February next, to Winfield Attenborough, Esq., solicitor, 24, Lincoln's Inn-fields; or to the managers, 34, Broad-street-buildings, City, where prospectuses may be had.

TRENANCE MINES COMPANY.—At the Half-yearly

General Meeting of shareholders, held at the office, No. 12, Cornhill, London, on Friday, the 26th day of January, 1849.

GEORGE BURNAND, Esq., in the chair.

The following resolutions were passed—

Proposed by J. H. Pidcock, Esq., and seconded by J. Macmillan, Esq., That the report and accounts, now read, be received, adopted, and entered in the cost and transfer book.—Carried unanimously.

Proposed by J. W. Griffin, Esq., and seconded by J. H. Pidcock, Esq., That the best thanks of the meeting be given to the chairman and directors for their attention to the business of the company.—Carried unanimously.

BRITISH ASSOCIATION.—The LOCAL COUNCIL having determined to hold an EXHIBITION of MANUFACTURES, MODELS of MACHINERY, &c., during the MEETING of the BRITISH ASSOCIATION at BIRMINGHAM, in the month of SEPTEMBER next, manufacturers and other parties who may be willing to co-operate with the Exhibition Committee, are requested to apply for particulars to the Honorary Secretaries.

W. MARSHALL, Honorary Secretary,
GEORGE SHAW, Honorary Secretary.

Philosophical Institution, Birmingham, Jan. 25, 1849.

CALIFORNIA COLONISATION COMPANY.—FOR PURCHASING AND OCCUPYING A TRACT OF COUNTRY, AND MINING, IN CALIFORNIA.

Under the Sanction and Protection of the American Government;
AND TRADING BETWEEN GREAT BRITAIN, THE UNITED STATES, THE EAST INDIES, AND OTHER COUNTRIES.

Capital £200,000, in 20,000 shares, of £10 each.—Deposit £1 per share.

OFFICES, 6, FINCHURCH-SQUARE, LONDON.

In connection with the above-named company, an "Emigration Society" is in course of formation, by which means the poorer classes will be enabled to obtain those advantages which can only be attained by the association of numbers.

Prospectuses will be ready for issue in a few days, when the names of the committee, bankers, &c., will appear.

EASTERN ARCHIPELAGO COMPANY.

INCORPORATED BY ROYAL CHARTER.

JOHN MACGREGOR, Esq., M.P. (late Secretary of the Board of Trade), Chairman.

BANKERS.—Messrs. Glyn, Halifax, Mills, and Co., London.

The objects of this company are, to carry on mining, agricultural, and trading operations in the Eastern Archipelago, and the acquiring and disposing of lands in the island of Labuan, and the parts adjacent (Borneo), a region abounding in mineral wealth, most fertile in all the valuable tropical productions, and very happily situated for the purposes of commerce.

Applications for details, prospectuses, and for the remaining shares, may be addressed to Messrs. Carden and Whitehead, No. 2, Royal Exchange Buildings; Messrs. Gladstone and Co., No. 3, White Lion Court, Cornhill; Messrs. Pritchard and Dale, Liverpool; A. Krauss, Esq., Manchester; Messrs. T. F. Dickinson and Co., Newcastle-on-Tyne; William Bell, Esq., and Messrs. J. Wilson Phipps, and Co., Edinburgh; B. J. Wilson, Esq., Dublin; John Macgregor, Esq., M.P., Chairman, Athenaeum Club, Pall Mall; Henry Wise, Esq., Managing Director; or Mr. Woolley, Secretary, No. 1, Adam Street, Adelphi.

RAILWAY PASSENGERS' ASSURANCE COMPANY.

(PROVISIONALLY REGISTERED.)

Capital ONE MILLION.

OFFICE—No. 3, OLD BROAD-STREET, LONDON.

DIRECTORS.—Messrs. Dean, Paul, and Bates, 217, Strand; Ransom and Co., Pall-mall East.

JOHN DEAN PAUL, Esq., Chairman.

GEORGE BERNARD HARRISON, Esq., 24, Great Tower-street, Deputy-Chairman.

SAMUEL WHITFIELD DAVIES, Esq., 14, Whitehall-place.

HARVEY FARQUHAR, Esq., 32, James-street.

The Hon. ARTHUR KILNARD, Pall-mall East.

(With power to add to their number.)

Messrs. Strahan, Paul, Paul, and Bates, 217, Strand; Ransom and Co., Pall-mall East.

Barnard Wight Holt, Esq., F.R.C.S., 30, Abingdon-street, Westminster.

MEASURES. Holt and Aubin, 24, Bucklersbury.

This company has been established for the purpose of applying the principle of Life Assurance to single journeys on railways, whereby the public will be enabled to insure compensation in the event of death or injury resulting from accidents during transit, on the payment of a very small sum in addition to the fare—the sum of 3d. for a first-class passenger to insure £1000 in case of death; second class 9d., to insure £500; third class, 1d., to insure £200; and, in case of accident only, a sum of money to be promptly paid, in proportion to the extent of injury sustained.

KENT AND SUSSEX INDURATED AND IMPERVIOUS STONE COMPANY.

Capital—£20,000, in 2000 shares, of £10 each.

(Provisionally Registered.)

N.B.—ORDERS EXECUTED FOR PAVING, &c.

Apply for prospectuses, &c., to Mr. William Hutchison, Calverley Quarry, Tunbridge Wells; or to Messrs. Hutchison, Wilford, and Co., East Temple Chambers, 2, Whitefriars-street, Fleet-street, London.

RIDER'S RAILWAY BRIDGE.—TO RAILWAY COMPANIES.

—This BRIDGE has now been for 18 months in DAILY USE (having a double track) on the HARLEM RAILWAY, in the State of New York, United States. The Erie Railway and the Newhaven Railway Companies have likewise adopted it. Several other bridges, for ordinary purposes, are also being constructed.

The advantages of this over all other iron bridges hitherto invented, consist in the small amount of iron required, compared with the strength obtained, in avoiding the use of any surplus weight of material, in the consequent economy of its construction, and also from its lightness, easy mode of putting together, and facility of transport, in its peculiar adaptation for foreign use.

As regards economy, it can be erected at a cost not exceeding that of a WOODEN BRIDGE, of equal capacity.

Applications to be made to Mr. Moulton, the patentee, Bradford, Wills.

LOCOMOTIVE STEAM-CARRIAGE COMPANY.

FOR PASSENGERS AND PARCELS ON TURNPIKE ROADS.

PRELIMINARY MEASURES having been TAKEN for CARRYING OUT the above object, all communications are requested to be addressed to Mr. Henry English, Hon. Sec. at the office of the Mining Journal, Railway and Commercial Gazette, 26, Fleet-street; or to Mr. F. Herbert, solicitor, 8, Hoathcote-street, Mecklenburgh-square.

COMBINED VAPOUR ENGINE.—This invention is applied

either to a single engine, with two cylinders and pistons, or, as is usual for marine purposes, two distinct engines with a cylinder and piston each. One of the pistons is acted upon by steam, and the other by the vapour of Ferrieholide, or of any other easily vaporized liquid. The steam is generated and applied as in the ordinary engine; but, upon its escape from the first cylinder, after having exerted its expansive force therein, it passes into a case, termed a vaporizer, containing a number of small tubes charged with Ferrieholide, or some easily vaporized liquid, penetrates into the space between, and thus comes into contact with the entire surface of the tubes. Immediately upon the steam coming in contact with the surface of the tubes so charged, a large portion of its caloric is absorbed by the liquid, which is thereby vaporized; and the steam, being deprived of its caloric, becomes immediately condensed, and is then returned into the steam-bulder, or, being by this process perfectly distilled, may be applied for culinary or any other purposes for which pure water is required. The vapour obtained, by the action of the steam upon the liquid in the tubes, is conducted into the second cylinder; and, after exerting its elastic force (which is greater than that of steam) upon the piston, is condensed, and, by means of a force-pump, returned into the vaporizer, which it thus keeps regularly supplied, and is alternately vaporized and condensed.

Cards of admission, to view the working of the engine, may be obtained by application to Mr. B. Talbot, at 47, Bedford-row, between the hours of Twelve and Three o'clock.

CWMBRAIN PATENT IRON REFINERY.—The

PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a NEW PATENT PROCESS, whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scrap, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purposes for which it might be required. The PATENT METAL IS PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes—

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND FUELLED, beat under the hammer into a bloom, reheated, and rolled into a 9 or 64-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-ropes, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B." and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire.

THE PATENT OFFICE AND DESIGNS REGISTRY.

No. 210, STRAND, LONDON.

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

TO IRON, COPPER, AND LEAD SMELTERS.—The ADVERTISER, who is well known, and has an extensive knowledge of Metallurgical Chemistry, in all its branches, is desirous of meeting with an APPOINTMENT, by which he will have the entire CHEMICAL MANAGEMENT of the WORKS, with a view to improvements, &c., in the present processes.—Address "G. L." care of the Editor of the Mining Journal, 26, Fleet-street, London.

TO MERCHANTS AND OTHERS.—The ADVERTISER, who has been for a number of years CONFIDENTIAL and MANAGING CLERK in a merchant's office, where the accounts were kept by "double entry," is desirous of obtaining SIMILAR EMPLOYMENT, either at home or abroad. He is also practically acquainted with the mode of working Cornish mines, and the manner of keeping mine accounts. References unquestionable.—Address "S. C. B." care of the Editor of the Mining Journal, 26, Fleet-street, London.

WHEREVER A WORKING ENGINEER, acquainted with mechanics, drawing, and the direction of workmen, is required, the Advertiser (who speaks the French and Spanish languages) would ENGAGE himself, at a moderate salary. The best references given.—Address (post-paid) to "A. B.," 20, London-street, Finsbury-square.

WANTED.—AGENT TO A SMELTING-WORKS.

A YOUNG MAN, of respectable connections, who has had several years experience in the management of lead and silver works, and whose testimonials as to abilities and character are of the first class, and who can give the very best references, wishes to procure a SITUATION AS ABOVE. The advertiser had under his management roasting and blast-furnaces, crystallising pots, refining furnaces, rolling and pipe mills, shot tower, &c., in the management of which he acquired himself with credit. His exertions in the conversion of slag lead proved highly successful. Private affairs caused his resignation of his place some time since. Any party engaging him would find him to have a thorough knowledge of his business and book-keeping, and to pay strict attention to the concern under his care.

Letters (pre-paid, stating terms, &c.) addressed to "A. Z." (lead manufacturer), care of the Editor of the Mining Journal, No. 26, Fleet-street, London, will meet with prompt attention.—January 8, 1849.

BLAST-ENGINE FOR SALE, for less than ONE-FIFTH of its COST.—A STRONG BLAST-ENGINE, with two double action cylinders, 14 inches diameter, 14 feet 6 inches beam, large air chamber, fly-wheel, and driving riggers, complete, has been little used, and excellently finished—can be seen at J. Blythe's Metal Works, 26, Heneage-street, Whitechapel, London.

Also, TWO small STEAM-ENGINES FOR SALE, 3 and 6-horse-power.

TO BE SOLD, A PUMPING-ENGINE, 30-inch cylinder, 9 ft. stroke, built by Mr. West, engineer, nearly new—only been worked about three years—no engine ever done better duty when at work; together with a SEVEN-TON BOILER, SPRING BEAM, and first set of rod-shaft attached, for £400. The engine, within a few miles of a good shipping port, being near Liskeard—one good road. For particulars apply to Capt. Osborn, Liskeard; or Mr. Wm. Rendle, Octagon, Plymouth.

STEAM-ENGINES.—From 3 to 20-horse power ENGINES

ALWAYS IN STOCK.

Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM.

Price—£12 to £16; with boiler, £22 per horse.

PATENT SAFETY FUSE.—Mr. WILLIAM R. BANT would direct the attention of MINING COMPANIES and OTHERS to the FACT of his OWNING a PATENT for the MANUFACTURE of SAFETY FUSE in Spain, and that he will be happy to attend to any communications which may be addressed to him for the SUPPLY thereof.—No. 74, Calle de San Miguel, Cartagena, Nov. 4, 1848.

EAST BIRCH TOR TIN MINE.—APPLICATIONS for the FEW SHARES in this COMPANY remaining unappropriated, to be made to the secretary, 2, Winchester-buildings.

RUNNATFORD COOMBE MINE.—An excellent opportunity is now OFFERED to any person wishing to PURCHASE SHARES in the above valuable concern.—Mr. BROUGHTON has FOR SALE a FEW SHARES, very cheap. Apply to Mr. Broughton, 30, Taylor's-buildings, Woolwich.

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the verge of doing are selling at correspondingly low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities.

MINING OFFICES, No. 8, GEORGE-YARD, LOMBARD-STREET, LONDON.—Mr. RICHARD THOMAS (who has had 30 years' experience at a mining agent in London) OFFERS his SERVICES in the PURCHASE and SALE of MINE and OTHER SHARES, on commission. Purchases in many valuable mines may now be made at unprecedentedly low prices. The fullest information given (without charge) relative to mining investments and operations.

N.B.—T. has now ON SALE a limited number of SHARES in an undertaking offering unusual advantages, situated in one of the best mining districts in Cornwall. Full particulars will be furnished on application.

MR. THOS. P. THOMAS, MINING AGENT, AND DEALER in RAILWAY, GAS, BANK, INSURANCE, AND OTHER SHARES.

2, GEORGE-YARD, LOMBARD-STREET, LONDON.

T. P. THOMAS is a SELLER of SHARES in the leading MINES of Cornwall, Devon, and Wales—paying from 10 to 20 per cent.—Statistical information afforded upon personal application, or by letter.

MR. GEORGE BATE, JUN., CIVIL ENGINEER AND SURVEYOR, WOLVERHAMPTON.

Offices in Queen-street, corner of Piper's-row.

N.B.—UNDERGROUND MINING SURVEYS accurately executed.

JAMES LANE, MINING SHARE DEALER, 80, OLD BROAD-STREET, LONDON.

MONEY.—MESSRS. KILLICK & CO. (late WINSTANLEY KILLICK & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms; they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.—6, Bank Chambers, opposite Bank of England.

ASTURIAN MINING COMPANY.—The board of directors hereby give Notice, that they have made a further CALL of ONE POUND per share upon the shares in the capital stock of this company, and that such call is PAYABLE at the London and County Bank, Lombard-street, on or before the 1st day of March next.

By order of the board, K. MACKENZIE, Secretary.

Offices of the company, 9, Abchurch-lane, Jan. 26, 1849.

TAMAR SILVER-LEAD MINING COMPANY.—TWELFTH DIVIDEND.—Notice is hereby given that a DIVIDEND of TEN PER CENT. has been declared by the directors upon the paid-up capital of this company, PAYABLE on Wednesday, the 7th day of February next, and succeeding Wednesdays, between the hours of Twelve and Four. The certificates are required to be left at the office two clear days in order to be examined and marked.—44, Finsbury-square, London, January 18, 1849.

TINCROFT MINING COMPANY.—Notice is hereby given, that, at a General Meeting of the shareholders in this company, held the 19th day of January last, it was resolved, among other things, as follows:—

That it is the opinion of this meeting, that, after hearing the explanations of the directors relative to the projected tin smelting establishment, that a preference in the distribution of the shares be given to the shareholders in this mine, to the extent of 5000 shares out of 8000, of which it is understood the company is to be constituted.

Notice is, therefore, hereby given, that all shareholders of this company CLAIMING to PARTICIPATE in the above-mentioned THREE THOUSAND SHARES, are to send in their applications, addressed to the directors of the company, at this office, on or before the 23d inst.; and that on such applications must be stated the several numbers of the respective certificates of the Tincroft Mining shares, in respect of which the claim is made.—For the convenience of shareholders, forms of letters of application may be had at the office.—44, Finsbury-square, Feb. 1, 1849.

UNITED MEXICAN MINING ASSOCIATION.—Notice is hereby given, that a DIVIDEND of SEVEN SHILLINGS and SIXPENCE per share will be PAYABLE at the office of the association, on and after the 1st of Feb., between the hours of Eleven and Three. Forms for claiming the dividend may be obtained at the company's office, and must be left two clear days for examination previous to payment.

By order of the court of directors,
F. Finsbury-circuit, London, Jan. 31, 1849. JOHN MATHER, Secretary.

SUBMARINE TELEGRAPH.—THE GENERAL TELEGRAPH COMPANY INVITE all PARTIES INTERESTED in this important subject to INSPECT their SUBMARINE TELEGRAPHIC ROPE—the most perfect of the kind yet submitted to the public.

Offices, 9, John-street, Adelphi, London.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY.....	Asiatic—8, New Burlington-street.....	2 P.M.
MONDAY.....	Entomological—17, Old Bond-street.....	8 P.M.
	British Architects—16, Grosvenor-street.....	8 P.M.
	Chemical—Society of Arts, Adelphi.....	8 P.M.
	Medical—Bolt-court, Fleet-street.....	8 P.M.
	Pathological—21, Regent-street, Waterloo-place.....	8 P.M.
TUESDAY.....	Linnæan—Soho-square.....	8 P.M.
	Civil Engineers—25, Great George-street.....	8 P.M.
WEDNESDAY.....	Society of Arts—Adelphi.....	8 P.M.
THURSDAY.....	Royal—Somerset-house.....	8 P.M.
	Antiquaries—Somerset-house.....	8 P.M.
	Royal Society of Literature—Marble-street.....	8 P.M.
FRIDAY.....	Astronomical—Somerset-house.....	8 P.M.
	Royal Institution—Albemarle-street.....	8 P.M.
	Philological—London Library, 12, St. James's-square.....	8 P.M.
SATURDAY.....	Royal Botanic—Inner Circle, Regent's Park.....	8 P.M.
	Westminster Medical—17, Saville-row.....	8 P.M.

Polarity of Bismuth.

Professor Faraday delivered a lecture, yesterday evening week, at the Royal Institution, Albemarle-street, to a very crowded and distinguished audience, upon the polarity of bismuth. The learned professor said, that he had undertaken to bring before his audience the nature of a certain newly discovered property of matter. Nothing in these days of wonder was more surprising than the extraordinary progress which had been made in the knowledge of the magnetic force, and of the manner in which that force appeared to dominate over matter; indeed, its influence now might almost be assumed to be as universal as that of gravitation itself. Not long ago he had the honour of exhibiting some of the properties of diamagnetism; and now he hoped to bring before his auditory clear proofs that the powers which made matter crystalline had something of a starting point in the magnetic forces. He had procured, therefore, a powerful magnet to illustrate his subject; but they must not suppose that the unusual power of the magnet had anything to do with the phenomena, as precisely the same results might be obtained from any magnet. The talented lecturer then, as a preliminary, exhibited his apparatus, which was arranged with a nicety and ingenuity befitting his high reputation as a successful experimenter. The magnet, so to speak, was made magnetic by a voltaic battery, so that by cutting off the communication, it was at once no magnet, and, by restoring it in the next moment, a magnet of the most powerful description. This was shown by the application of pieces of iron to the poles, which were placed there and moved about readily enough; but, in an instant, by restoring the connection with the voltaic battery, they became immovable, and no force of arm could alter their position. But they were not to suppose the magnetic power existed only by contact; for some distance all around, called very properly the magnetic field, the same influence existed; and it was particularly strong between the two poles. This he made apparent by suspending a piece of copper, and making it spin with great velocity, when, upon the poles being made magnetic, the motion was suddenly arrested. To show this more clearly, the professor took a plate of copper, and began to pass it through the space between the poles, after the manner of a carpenter sawing a piece of wood—of course, with the greatest possible ease, as it was in contact with nothing but the atmosphere; but, on the poles being made magnetic, it was moved with the greatest difficulty; and the professor was in the predicament of the *aforsaid* carpenter sawing a piece of iron-wood with a had saw. A similar experiment with a plate of copper, turned by a wheel, also illustrated this power most successfully. It only remained to be premised, that other metals were subject to the same power: he had used copper, but iron was influenced in a still more extraordinary degree.

Bismuth was a very beautiful metal, and one most interesting to the philosopher, on account of its being at the head of those bodies which were called diamagnetic. It was repelled from the poles of the magnet almost as strongly as iron was attracted to them. He was casting the other day some crystals of bismuth, and, on subjecting them to equatorial force, he observed that they pointed some this way and some that way, but that each crystal had invariably its own direction. This singular regular irregularity convinced him that it was the result of obedience to some law, and, by a variety of experiments, he discovered that the direction depended solely on the cleavage of the crystals. A great many crystals being all at once subject to the same influence, it became obvious that the pointing was not the result of any sympathetic influence; if the cleavage of two crystals were the same, then they would point the same, and not otherwise. The learned professor then proceeded to show this peculiarity, by suspending various crystals of bismuth between the poles of the magnet, and in every case, by examining the direction of the cleavage, he was successful in predicting the direction in which the poles of each crystal would set. In the same way, that the indicator of the mariner's compass disturbed, would, when left to itself, return to the north; so the crystals of bismuth, although placed in other directions, would, when left to themselves, return each to its own particular set, pointing indifferently with either end of its pole. This was what he called the polarity of bismuth.

Another curious fact was, that this polarity depended upon crystallisation, for when the very same crystals which had shown a marked obedience to this new law were pulverised, the property was entirely lost. Another consideration of moment was, as to where the line of polarity lay. It was generally said that bismuth crystallised in cubes, but he had never yet procured crystals which were perfect cubes; they were more properly rhomboidal, with all the solid angles taken off at equal planes of cleavage. His experiments then went to prove, that the line of polarity was diagonally from corner to corner, taking the longest breadth of the rhomboid. This formed what he called magneto-crystalline axiality; he used the word axiality rather than polarity, as it better expressed this newly discovered property of bismuth. Other crystalline metals, such as antimony and zinc, he doubted not, possessed the same axiality, but he was not prepared to say in what degree; and a most interesting field was opened for inquiry, scarcely less beautiful than that of diamagnetism. This deservedly popular lecturer concluded his discourse by several other admirable experiments, in illustration of the properties of this newly discovered axiality, and stated that he proposed, at no distant period, to bring some further new peculiarities of bismuth before the Institution.

LITERARY NOTICES.

The Stone Catalogue. By H. R. FOSTER, of the *Morning Post*; 1 vol. 4to. London: Bogue.

We are late in our notice of this appropriate record of the great dispersion of the dual splendours of the last of the Plantagenets; but we regret the delay the less, inasmuch as the volume has been received with an unanimity of approbation, both by the public and its representative (the press), which supercedes the necessity for any panegyric from us, and has already, we believe, led to the enlistment of the author's services in pursuits analogous to that which he has here followed to so creditable and gratifying a completion. We advise the use of the word *author*, in contradistinction to that of the more humble one of compiler; for Mr. Foster has contrived to invest his work with varied intellectual attributes, as well as with an entire originality of treatment, which render it in every way worthy, in an artistic and mental point of view, of those portions of the contents of *Stowe* which have so long made that princely edifice familiar to all ears in the world of politics, letters, and fastidious sumptuousness of modern luxury or antique adornment. Mr. Foster may be said to have created a new era in the annotation of such incidents as he has here chronicled. With the ordinary dry repulsive data of the auctioneer's inventory have become the "pebble in the hands of the lapidary," and he has converted a mere tabular collection of names and arithmetical figures into a book that may, at any time, be taken up with an interest altogether apart from that which appertains to it, on account of the personal and historic associations connected with the locality of *Stowe*, and the leading features of its treasures. With a tact scarcely ever observable among those who have before made criticisms in this form, even on fragmentary portions of celebrated social disquisitions, like that of the Duke of Buckingham, Mr. Foster has retained all the necessary but the least characteristics of the usual catalogue, while engraving upon it the commentary of the connoisseur, and the dewy lore of a Walpolean gossip. The consequence is, that we have a book of anecdotes—biographical, archaeological, scholastic, and otherwise—combined with what is properly called a catalogue, in the general acceptance of the term. Every single item disposed of at the *Stowe* sale is here enumerated, but it must not be supposed that to each are appended distinct remarks. Such a course would be only to overlay the book with worthless minutiae and wearisome details. Mr. Foster has exhibited a wise discernment in the selection of his topics for amplification, and has exhibited no small self-control in withholding those that would have led to a less discriminating judge, and one possessed of less mastery over his matter, into diffuse and tedious disquisitions upon trifles. We regard the dispersion of the contents of *Stowe* as certain to communicate a potent impetus to public taste for works of art, of a most miscellaneous description, in this country; and we look upon it as most fortunate auxiliary to such feeling, that this very elegant volume should have met with the reception it has experienced. We should, perhaps, have earlier stated, that the popularity of the book renders it almost superfluous, that the illustrations are very numerous, and of corresponding excellence. To one of them in particular, the engraving of the celebrated Chandos Shakespeare, we may safely apply the hackneyed, but expressive phrase, that it alone is worth the price of the volume.

IMPROVED WINDOW VENTILATOR.—Another design recently registered under the Act, is by Mr. William Dixon, of Liverpool, for a ventilating pane, which can be readily adjusted to any requisite extent, and has the appearance when shut of a complete pane.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

WEDNESDAY.....	Amicable Insurance Company—offices, at One.
	Irish South-Eastern Railway—George and Vulture Tavern, at One.
THURSDAY.....	Hibernian Mining Company—offices, at One.
	British Rock and Patent Salt Company—offices, at One.
	California Steam-Trading Company—London Tavern, at Three.
	Provident Glaciers' Mutual Life Assurance—offices, at Six.
FRIDAY.....	Reading, Guildford, and Reigate Railway—offices, at Twelve.
SATURDAY.....	Electric Telegraph Company—offices, at One.

[The meetings of Mining Companies are inserted among the Mining Intelligence.]

LONDON AND COUNTY JOINT-STOCK BANKING COMPANY.

The annual general meeting of this company was held at the London Tavern, Bishopsgate-street, on Thursday, the 1st inst., and was numerously attended.

JOHN SADDLER, Esq., M.P., in the chair.

Mr. H. P. NICHOLS (the secretary) read the report, as follows:—

The directors of the London and County Bank, in submitting to the shareholders the financial statement of the bank for the 30th of December last, have much pleasure in reporting that the establishment continues to maintain a satisfactory position throughout the circle of its operations; and, notwithstanding the adverse current of events, which has during the past year prevailed, tending to disturb the commercial operations of the country, the progress of the bank during that period has been marked by the acquisition of an increased connection, and an improved class of accounts.

Your directors considered it their duty, in consequence of local circumstances that came to their knowledge, to open a branch at St. Albans in September last, which gives promise of an important accession of business in that locality.

Your directors have made it their study to reduce as much as possible the working expenditure of the establishment, and an improved system of district inspection has been adopted, upon a principle of economy and efficiency, which your directors conceive cannot prove otherwise than productive of beneficial results to the general working of the branches. The net profit for the past half-year, after deducting current, and law expenses paid, rebate of bills, allowance for bad and doubtful debts, and reduction of preliminary expenses, is £116,014. 1d., and which your directors recommend that a dividend after the rate of 6 per cent. per annum (free of income tax) be declared for the half-year ending the 30th of December, 1848—leaving a balance of £116,014. 5d. to be carried to the reserved fund, which will then amount to £7,550. 15s. 4d.

Your directors have the satisfaction to announce that John Sadler, Esq., M.P., has been elected chairman; a gentleman, whose general habits of business, and intimate knowledge of the system of district banking, eminently qualify him for that position; James Andrew Darham, Esq., John Henry Lamb, Esq. (lately one of your auditors), and James Rhodes, Esq. (formerly your district inspector), also fill seats at the board. The intimate acquaintance of the two last-named gentlemen with the details of your establishment, give assurance of their advice and counsel being of more than ordinary value. At this meeting the following directors go out of office by rotation, but being eligible for re-election, offer themselves accordingly:—viz. John Wheelton Esq., John Griffith Frith, Esq., and Richard Springett, Esq.

The proprietors are aware, that at an extraordinary general meeting, held on the 7th December last, a resolution was passed for increasing the future qualification of the directors, the other for declaring the future qualification of the auditors. It will be necessary, under the provisions of the Deed of Settlement, that those resolutions should be submitted for confirmation at the extraordinary general meeting convened for this day.

The CHAIRMAN said, the duty now devolved upon him to move, that the report the secretary had just read, be received, adopted, and printed for the use of the shareholders; and, in discharging that agreeable duty, he did not think it necessary to trouble the meeting with many observations. He thought the fact, that the directors had felt themselves justified and called on, during the past eventful and most unavourable year, to recommend the payment of a dividend of 6 per cent., afforded of itself matter for just congratulation. (Hear, hear.) After providing for paying that dividend, there would remain a sum of £116,014. 5d., which the directors recommended should be added to the reserve fund, which would then amount to £7,550. 15s. 4d. By the report, it would be seen that his brother directors had alluded to him; but he was afraid they were disposed most of our great losses, led him to the conclusion, that they would continue in a secure and progressive course for the future. In conclusion, he would take this opportunity of urging most seriously on each proprietor the importance of his seconding the endeavours of their active and excellent officers, by giving all their personal influence to promote the interest and prosperity of the bank, in which each proprietor had a manifest concern. (Applause.)—Mr. J. G. FARRER (a director) seconded the motion.

Mr. THORPE asked, if it was true that Mr. Emanuel Cooper, after he had withdrawn from the bank, was his service for the services he had rendered to the bank. The CHAIRMAN said there was entire separation between Mr. Cooper and the London and County Bank, neither was he receiving anything directly, or indirectly, from the establishment. (Hear, hear.)

Mr. OSBORN asked several questions in respect to the items of the balance sheet, one of which was, whether the securities of the bank was valued at their present value, or at a valuation put upon them at other times.

The CHAIRMAN replied that the value of their securities were regularly gone into by the directors, who had the matter again to be considered by the board of directors. The meeting must also consider, that they had the further security of the auditors, who were appointed by the shareholders, and whose duty it was to investigate every transaction, and to inform themselves of the nature of every single operation connected with the management of the bank. Knowing the responsibility of their position, he was happy to hear that those gentlemen had always been offered the opportunity of examining into all the transactions between the bank and the public. These facts he hoped would convince the bank proprietors, that the board would be likely to put a just and fair valuation on the different securities, led him to the conclusion, that they would continue in a secure and progressive course for the future. In conclusion, he would take this opportunity of urging most seriously on each proprietor the importance of his seconding the endeavours of their active and excellent officers, by giving all their personal influence to promote the interest and prosperity of the bank, in which each proprietor had a manifest concern. (Applause.)—Mr. J. G. FARRER (a director) seconded the motion.

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Chairman. This showed the attention of the directors had been given to that important subject. (Hear, hear.) As regards Mr. Gifford, he was always ready to receive any communication from him; and he had always access to his (Mr. Luard's) parlour, for he knew that gentleman to be a man of talent, and the value of his services; he had always felt that Mr. Gifford was impressed with good feelings towards the bank, and knew that he had rendered it great service. (Hear, hear.) Again, he would return his grateful acknowledgments for the compliment paid to himself and colleagues.

The three retiring directors, Messrs. Wheelton, Frith, and Springett, were re-elected unanimously. An extraordinary meeting was then held for confirming two resolutions passed on the 7th Dec. last—the one for increasing the future qualification of directors to 50 shares, and the other for increasing the future qualification of auditors.—These resolutions were confirmed unanimously.

On a vote of thanks being passed to the CHAIRMAN, that gentleman stated, that previous to entering the bank, he had made himself acquainted with its financial position, and the mode in which its business was conducted, the result of which was his acceptance of the office which he now occupied. (Applause.)—The meeting then adjourned.

CAMERON'S STEAM COAL, AND SWANSEA AND LOUGHOR RAILWAY COMPANY.

The ordinary meeting of this company was held at the offices, in Moorgate-street, on Wednesday, Jan. 31st, for receiving report in respect to the railway.—The chair having been taken by N. P. CAMERON, Esq., Mr. HOWDEN (the secretary) read the advertisement convening the meeting, and also the following report:—

In compliance with the provisions of the Act of Parliament, the present ordinary general meeting of shareholders has been convened specially on the subject of the railway, for which a special Act was obtained in 1846. The only matter on this subject which the directors have to report is, that they have lately procured from the Commissioners of Railways an extension of two years, from August, 1849, for the construction of the line.

The CHAIRMAN asked, if any one were willing to move the adoption of the report, as it was a mere formal matter?—After some delay, Mr. W. B. CAMERON moved the adoption of the report, and Mr. BARRIAM seconded it.

Mr. C. BUBBS said, he would now beg to say, as he could not move the adoption of the report, nor under present circumstances do any administrative act, that the document just presented was a prudent one, and such as the meeting should entertain. (Hear, hear.)—The report was then put by the CHAIRMAN, and adopted unanimously.

The CHAIRMAN having vacated the chair, the meeting adjourned.

[Looking at the absence of ill-feeling at this meeting, we are led to hope that all differences are at an end, and that their mineral property, which has been the subject of so much contention, will bear what has yet been denied it—namely, a fair trial, or *explication*—the result of which most persons would look upon as favourable to the shareholders.]

SWANSEA DOCK COMPANY.

The half-yearly meeting of proprietors was held at the company's offices, Swansea, on the 30th Jan.—Capt. EVAN MORGAN, R.A., in the chair.

After reading the advertisement, and sealing the new register of the company, the chairman called on the secretary to read the following report:—

The present meeting is convened pursuant to the Company's Act of Incorporation, but your directors have nothing specially to report upon, having, on the 23rd of October last, fully stated their views and opinions to the extraordinary general meeting then held; and having been authorized by that meeting to carry out certain arrangements with the corporation of Swansea, your directors have given this important matter the attention it deserved; the preliminary steps have been complied with, and details, as far as was practicable, have appeared from time to time in the local papers. A bill authorizing the contemplated sale of the company's interests to the corporation of Swansea has been deposited in the House of Commons, and as soon as circumstances will enable them so to do, your directors will call a special general meeting of the company, and communicate the details to the shareholders. The remainder of the call is being gradually paid, and your directors continue to liquidate the debts of the company as funds are placed at their disposal; but as difficulties may arise in the contemplated sale, by the non-payment of the call, your directors (having first taken every pains to obtain it) have felt obliged to commence legal measures for enforcing the outstanding claims.

The reports and the accounts were received and adopted; Messrs. Lewis L. Dillwyn, D. Francis, and W. Edmond, the retiring directors, were re-elected; and Messrs. John W. Leach, and T. A. Marten re-appointed auditors. A vote of thanks was passed to the directors for their attention to the interests of the company, and to Capt. Evan Morgan, R.A., chairman of the company, for his services at the meeting.—*Swansea Herald*.

RAILWAY ACCIDENTS.

He who could have supposed that the customary journeys by land, from place to place, in the United Kingdom, would increase, with the introduction of railway transit, from thousands to millions in the course of a year, without adding, in some ratio, to the number of casualties, should have taken his degree in "fool's paradise." Yet have we some of that class among the grievance-mongers of the day. It is in vain to hope that the entire family will ever be embued, "where ignorance is bliss." And, after all, since "nothing is made in vain," it may be their peculiar province to be constantly reminding the impossible, as pioneers for the practicable; and thus, labouring in their vain vocation of making man and his machinery perfect, direct public attention to the consideration of how best imperfections themselves may be lessened or subdued.

Leaving the "forlorn hope" of society, however, to their own wayward fate, and addressing ourselves, in direct terms, to the more sensible, we would ask why should any means of prevention be disregarded, which may be at all likely to cause a decrease in the number of accidents on railways; or, why disregard any appliances to reduce the amount of pecuniary or other losses, or of the sufferings and afflictions that are consequent upon them? Let the workings of any line be made as complete as possible, adopt every promising invention for personal safety, select all your men for their merit and aptitude, and yet there is one further advance requisite—the ever present motive of self-interest. If all your servants can be allowed to share in the benefit of a fund, raised through the medium of increased care and watchfulness, then, and not until then, you have done all that money, science, and human motives can attain. And this it is the bounden duty of every railway manager to perform. Life, with all these precautions, will still, occasionally, be lost; personal afflictions will still have to be suffered, although less frequently. But were it only one life saved in a year, or one limb the fewer lost, there would be enough to be thankful for. Hence, we are disposed to think favourably of the plan understood to be adopted by the Railway Passengers' Accident Assurance Company; a leading feature of which is, that on railways, the managers of which facilitate the collection of their premiums, the clerks, drivers, guards, signal men, and other employees, shall participate in their profits. Save life, save limbs, avoid scaldings, scorchings, and you shall share the peace, say the company. And what will the peace amount to? We will see.

Taking as the basis of calculation the returns of the number of journey tickets issued in 1847 for the United Kingdom, and the number of deaths on railways, we find the former stated at 51,000,000, and the latter simply at 52; of which 52, by the way, some were self-perpetrated deaths. Let us suppose, then, that there was one loss of life out of every million of passengers, and, as there is no official account of the cases short of death, we will take the latter at 20 to 1. The proposal of the company being to insure first-class passengers in 1000l. each, second-class in 500l., and third-class in 200l., and to pay proportionately for sufferings more or less severe that do not terminate fatally, for loss of time, &c., we will classify the deaths, and average the accidents pretty much in the form adopted by the *Liverpool Courier*, assuming, of course, both as respects claims and income, that all passengers would insure; for, if partly only insured, then the risk would be but in the same ratio: say—

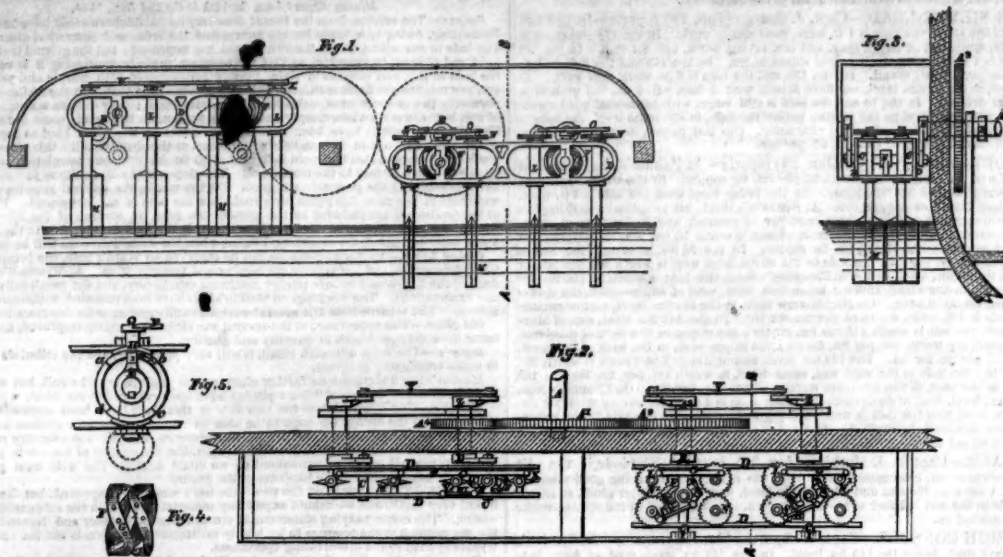
12 deaths, insured at 1000l.	£12,000
17 ditto ditto 500l.	8,500
23 ditto ditto 200l.	4,600
52 deaths covered by	£25,100
1020 cases of injury, being 20 times the number of deaths, met by an average outlay of 500l.	504,000
Total outlay	£529,100

What, then (our readers will ask), can there be to prevent the carrying out of such a plan? Nothing, we reply, if parties meet each other fairly. We cannot see why the railway managers should not facilitate the stamping of the journey tickets at their respective stations with the device of the assurance company, to make them valid as policies; unless it be that they indulge in law expenses, as if they were imperial luxuries, and would, therefore, encourage, rather than deprecate, "actions for damages caused by negligence." And we do see in what respect the insurance company referred to deserves encouragement. The directors proceed like men of business, capable to effect an object, and determined to carry it out. Propound their plan, apply for their Act of Parliament, and subscribe their capital, without coming to the public to take up any of the shares.

ANTI-COLLISION SIGNAL LAMP FOR SHIPPING.—Amongst the designs recently registered is one by Mr. Tucker, of Liverpool, for a signal lamp for shipping, which consists in having one colourless and two coloured lights so disposed in a lamp or lantern, when properly placed on shipboard, shall indicate to the spectator the exact position of the ship or vessel making use thereof, thus enabling another vessel to avoid any collision.

THE RAILWAY MECHANICS' INSTITUTION AT RUGBY.—At the annual meeting of this society, in connection with the works of the London and North-Western, at Rugby, the report stated that there were 76 members, and that the numbers were increasing; that there were 260 volumes of useful works in the library, and that 100 more were to be added. Twelve lectures had been delivered during the half-year on instructive and mechanical subjects.

IMPROVED APPARATUS FOR AGRICULTURAL PURPOSES.



(Specification of patent granted to J. E. Ross, of the town and county of Leicester, for improvements in apparatus for dibbling, and other agricultural purposes, parts of which improvements are applicable to propelling vessels.)

This invention has reference first to dibbling, and other agricultural purposes; secondly, to propelling vessels. With regard to the first part, as it would be difficult to give a succinct and perspicuous account thereof without diagrams, and the subject being somewhat foreign to this Journal, we shall pass at once to the part relating to propelling, which is thus described:—Fig. 1 exhibits a side elevation of an apparatus for propelling vessels; fig. 2 a top plan view thereof, as it would appear when applied to the sides of a vessel; fig. 3 a transverse and vertical section, taken through the line A B, at figs. 1 and 2; figs. 4 and 5, detached parts, hereafter referred to. A, A, marks the main driving shaft of the engine, or other prime-mover; upon this shaft a spur-wheel, A¹, is keyed, and takes into a spur-wheel, A², keyed upon the shaft, A³, for actuating the propelling apparatus, hereafter described; B, a crank, mounted upon the outer end of the shaft, A³, into the opposite end of the crank, B; one end of a pin, C, is securely fixed, and supports one end of the framing, D—the other end of the said framing being supported in a similar manner; and upon the pin, C, an arm, E, is securely fixed, and takes into a cam, F, of the following construction at fig. 4:—G, G, mark two castings, of the shape there exhibited; these castings, when placed over the pin, C, and one at each side of the arm, E, so as to embrace the pin, 1, thereof, are connected together by a casting, and they are securely fixed thereto by nuts and bolts, passed through the holes, * *, in said castings.

The upper part of the castings, which connect the castings, G, G, together, are formed cylindrical, such parts being the axes upon which the cam turns, by fitting said axes in bearings connected to the framing, D; the outer and opposite end of the crank pin, C, is connected to one end of a crank, I, the other end of said crank being fixed upon a short shaft working in a suitable bearing, K, fixed to the framework, as shown at fig. 2, where it will be seen that there is another and similar arrangement at the opposite end of the framing, D, for the same purpose; L, L, mark iron spindles, the upper part whereof are mounted in suitable bearings, at the top and bottom of the framing, D, and to the lower part thereof there are connected and securely fixed the floats, or paddles, M; it will be seen, upon referring to fig. 2, that there are eight of these floats, or paddles, situated near the fore part, A, of the vessel, and placed, or disposed, two and two, in the framing, D; whilst near the stern, B, of the vessel, there are only four of such floats, or paddles arranged, or disposed, singly in the framing, D. I do not, however, intend to limit, or confine, myself to this precise number of floats, or paddles, as a greater or less number may be employed, as circumstances may deem necessary. Upon the upper end of each of the spindles, L, situate near the fore part of the vessel, toothed wheels, N, N, are securely fixed, and gear into each other, as shown, for the purpose of feathering, or presenting, the vertical edges of the floats, or paddles, M, to the action of the water as they leave it, and to the wheels, N¹, studs, or pins, are fixed, which connect said wheels to a rod, or bar, O, whereby each wheel receives an equal amount of motion simultaneously through the agency of the cam, F, which communicates the motion by a lever, P, fixed upon the upper end of the axis, O—said lever being connected by a rod, R, to a lever, S, fixed upon the upper end of the spindle, L. The paddles, or floats, M, situate near the stern of the vessel, are actuated in the following manner:—

Upon the upper end of the axis, O, there is fixed a lever, T, which is connected by a rod U, to the lever, V, fixed upon the upper end of the spindle, L¹, and the other opposite end of the lever, V, is connected to a rod, or bar, W, to which are also connected the levers, X, X, fixed upon the upper end of each of the other spindles, L, L, whereby each float, or paddle, receives an equal amount of motion simultaneously. The *modus operandi* of this arrangement is as follows:—Upon motion being imparted to the driving shaft, A, it will be transmitted from thence by the wheel, A¹, to the wheels, A², A³, and shafts, A³, A⁴, upon which said wheels are keyed or fixed; and such motion will be transferred by the rods, Y, and cranks, Z, to the shafts, A³, A⁴, and parts in connection therewith—that is to say, as the crank, B, is caused to rotate, the pin, C, moving therewith, will carry with it the framing, D; and floats, or paddles, M, connected thereto at the same time, the arm, E, will be carried round, and the pin, 1, passing along the slot, a¹, between the castings, G, G, will cause the said cam to be moved on its axes, and impart the following movements to the floats, or paddles, when the crank pin, C, is at the angle of 45° at either side of the centre of the shaft, A³; and during the time it is passing over, or under the centre between these angles as between a and b, or between c and d, at fig. 5, it will pass along those parts of the slots without producing any movement of the cam, F, thereby producing the following effect upon the floats, or paddles:—Suppose the crank pin, 1, to be moving from a to b, in the direction of the arrow's flight along this portion of the slot, A¹, and the floats, or paddles, to be turned edgewise, as at figs. 1 and 2; by the time the pin 1 has arrived at the point, b, as it descends from b to c, it will cause the cam, F, to be turned into the position exhibited at figs. 1 and 2, by reason of the pin, 1, which moves in a vertical direction, having traversed along the inclined portion of the slot of the cam, F, which will have the effect of turning the cam a quarter of an entire revolution, and consequently, impart the same amount of motion to the floats, or paddles, M, through the medium of the levers, P, S, and rods, R and O—and thus the floats, or paddles, will be made to present their broad surfaces to the action of the water, and in this position they will be moved along the slot, a¹, from c to d through the water, and thereby effect the propelling of the vessel; and, as the pin, 1, ascends the inclined portion of the slot, from d to a, it will again cause the cam, F, to be turned a quarter of an entire revolution, and thereby effect the feathering, or turning edgewise, of the paddles, or floats, as shown at figs. 1 and 2, and before mentioned, in which position they will pass from a to b, after which they will again begin to present their broad surfaces to the water, and in this manner the propelling of the vessel will be effected. I would remark that, by the peculiar construction and arrangement of the cam, F, the action thereof on the floats is the same, whether going head foremost or stern foremost. An important feature in this part of my invention consists in causing the floats, or paddles, situate near the stern of the vessel, to move at a quicker speed than those situate near the fore part of the vessel, which is effected by making the wheel, A⁴, of smaller diameter than the wheels, A¹ and A², and I consider that the difference of velocity between the two sets of floats should not be less than 2 to 1. This difference of speed only applies to the paddles, or floats, when arranged, or disposed, as above described, and exhibited as in cases where the paddles are similarly arranged at the fore part and aft part of the vessel. I propose to drive them at an equal speed, which may be effected by making the wheels, A¹ and A², of equal diameters; and, further, for vessels intended for canals or rivers, the apparatus

employed for turning the floats or paddles edgewise may be dispensed with. I would also recommend that the cranks upon the driving-shafts be so arranged with respect to each other, as that the sets of floats, or paddles, situate on one side of the vessel, and near the fore-part thereof, should be out of the water at the same time that the set of floats, or paddles, at the other side of the vessel, and near the stern thereof, are also out; whereby the strain upon the engine, or other prime mover, and the motion thereof, will be rendered nearly uniform; and this applies also to the other floats, or paddles, situate opposite to those lastly mentioned—that is to say, the four sets of paddles should not be in the water at the same time.

The mechanical arrangements and combinations, set forth, described, and represented, are claimed, whereby the paddles, or floats, when placed near the stern of a vessel, are caused to move at a quicker speed than those placed at the forepart of a vessel, as constituting improvements in propelling vessels, as hereinbefore particularly described, set forth, and represented.

Patent-office and Designs Registry, 210, Strand, Jan. 31.

THE WORKING OF RAILWAY BREAKS.—George Kendle, of Killingworth Colliery (a colliery which has already produced one immortal "pit lad," and there is no reason why it should not produce another), has brought under our notice his invention of an apparatus for working railway breaks and preventing collisions, which may be substituted for the screw and lever on either tenders or carriages. If on the tender, it would work the break of the engine as well. If on the carriage, the whole train could be placed at the command of the men on the engine (in addition to the guard), by each carriage being provided with a piece of cord the length of itself, having a hook at one end and a loop at the other. With a train thus furnished, the men on the engine could lock every wheel, in case of need, in a moment, the apparatus exerting a retarding power six times greater than the ordinary break. The cost would be but a trifle more, while the superior advantage is incalculable. The passengers, if expedient (?), might have control over the carriages behind them. An alarm, also, might be placed for a few pence on the tender, whereby, from any part of the train, an intimation of danger might be given to the engine-man, with little more trouble than is required for the ringing of a bell. Moreover, should any of the couplings break, the apparatus would of itself give an alarm. Such, in substance, is the communication made to us by the inventor (who has a working model of his contrivance). It is not for us, but for practical men, to decide upon the merit of his plan; but we have thought it due, both to him and to travellers, to afford him the use of our journal for an introduction to public notice. *—Gateshead Observer.*

CONVEYANCE OF CATTLE AND STOCK BY RAILWAYS.—Some important meetings of farmers, agriculturists, graziers, and others who supply the London markets, have just been held at Peterborough, North Walsham, and other places, to take into consideration the advances that have been made by the Norfolk and Eastern Counties Railways, on the conveyance of stock, of from 9s. to 12s. per head on cattle, and from 1s. 8d. to 1s. 9d. per head on sheep, from Norwich to London. Resolutions were passed at the North Walsham meeting, where 150 persons were present, to the effect that this additional charge on the transit of beasts is an unequalled exaction, and that in justice to themselves and the public, the farmers do resolve to resist it by resorting mainly to the old system of driving by road. Mr. Newall, the superintendent of the Norfolk line, who represented the companies on the occasion, stated that the former rates charged were so low, that the conveyance of stock became a losing business; that the companies found the advance to be absolutely necessary; and, that under all the circumstances the directors had resolved to abide by the advanced rates, and that it was a question of expediency, whether it would better answer the purposes of the farmers to continue to send their beasts by railway or return to the original system of sending them by road.

ECONOMY PER RAILWAY.—The reduction in the price of coal consumed at Bury St. Edmunds, since the opening of the Eastern Union Railway, has been equal to the yearly amount of poor-rates levied in that town.

The dividend declared on Tuesday at the half-yearly meeting of the London and Greenwich Railway Company, was 3s. 9d. per share, and the accounts presented were received and adopted. In the course of the proceedings it was mentioned that a loss to the extent of 1000*l.* had latterly been incurred by the defalcation of a clerk.

HOW TO SPLIT PAPER.—Procure two rollers or cylinders of glass, or amber resin, or metallic amalgam; strongly excite them by the well-known means, so as to produce the attraction of cohesion, and then with pressure pass the paper between the rollers. One half will adhere to the under roller, and the other to the upper roller, and the split will be perfect. Cease the excitation and remove each part.

THAMES STEAM-BOATS.—Several experimental trips have lately been made with the new iron steam-boat, the *Emmet*, which is of the Janus, or double-headed, build, and intended for the halfpenny passenger trade, in company with the *Ant* and the *Bee*. The engines on board the *Emmet* are made by Messrs. W. Joyce and Co., of the Greenwich Iron-works, and are nominally of 20-horse power each; but their actual power, as given by the indicator card, is 88 horses. The whole of the engines, as well as the framework, is of wrought-iron. With regard to the performance on Friday, the 19th ult., the *Emmet* started, with tide, from Blackwall at ten minutes to one o'clock, and arrived off the Town Pier, Gravesend, at two o'clock, thus accomplishing the entire distance in one hour and ten minutes, or at the rate of 17 miles per hour. On her return, she ran a race with that crack vessel, the *Brunswick*, and from Erith to Blackwall ran with her, the paddle-boxes not one foot asunder the whole of the distance. On Thursday last another experiment was tried, when she ran against the tide about 14 miles an hour. These performances were highly creditable to the contractors and engineers of the little craft, and called forth high encomiums from several professional men who were present.

Two new vessels, which will surpass all the others in size and splendour, are about being laid down by the British and North American Company, to replace the *Acadia* and *Britannia*, which have been sold. *—Liverpool Mercury.*

MINERAL OIL.—In a coal-pit, near Alfreton, belonging to Mr. Oakes, of Reddings, a valuable spring of a mineral oil, as naphtha, has made its appearance. The quantity varies according to the fall of the roof of coal from 150 to 30 gallons daily. The pit in which the spring occurs is said to be the deepest in that part of the country. Some years since a large spring of salt water, or nearly saturated brine, appeared in this pit, and has continued to flow uninterruptedly; latterly, the mineral oil has accompanied the salt spring. The oil as it issues is of a dark tarry colour; but, by distillation, yields first a very volatile liquid, which is found to be a good substitute for chloroform as an agent for acting on the nerves of sensation; and, secondly, a nearly colourless oil, which possesses very high illuminating powers, and possessing the advantage that it will not burn without a wick, thus rendering it free from the objection which has been found to attach itself to the use of camphine. As a final product of the distillation, abundance of solid paraffin is obtained; this substance being described by Reichenbach as invaluable for machinery, from its anti-frictional properties, and its unchanging character when exposed to air. It is understood that a house in Manchester has contracted for this mineral oil, with a view of introducing it for the purpose of house illumination. A similar spring is recorded to have occurred about a century since, near Birmingham. They are common in Persia and Italy. Milan is illuminated with the product of a similar spring. We have been informed that a chemical examination of the various oils of which the Derbyshire spring consists is being made in the laboratory of the Museum of Practical Geology. *—Athenaeum.*

JOINT-STOCK COMPANIES' WINDING-UP ACT—WHEEL LOVELL MINING COMPANY—JUDGMENT.

This was an appeal motion against an order of Vice-Chancellor Knight Bruce, argued before his Lordship on Friday—a report of which appeared in the last *Mining Journal*—and stood over for judgment. The petition was presented under the fifth section of an Act of Parliament called the Joint-Stock Companies' Winding-Up Act; and the petitioner, Mr. Wylde, M.P., the master at Charing-cross, prayed that the company might be wound-up under the provisions of the before-mentioned statute, on the ground that he was a contributor to the company, and, having been sued on their behalf, they had refused to indemnify him for the verdict and costs. The company appealed from the order of the Vice-Chancellor, granting the prayer of the petition.

Mr. Rolt and Mr. Follett appeared for the appellants; Mr. Bacon and Mr. J. H. Palmer supported the order.

The Lord Chancellor this morning gave judgment, and said, the first question was, whether mining companies of this description were included within the operative parts of the Act in question, the 11th and 12th Victoria. His Lordship then read the sections of the Act referring to what companies it was intended to apply to, and said that the second clause was the only one that appeared to embrace these particular companies. That section, however, he thought, was only intended as a further description of those companies which were intended to be affected by the Act. Now, as a guide in ascertaining what companies were contemplated by the present Act, it was manifest that various companies were excluded from an antecedent Act, of which this was only an amendment, and that these sort of mining companies were clearly so excepted. The new Act went on to state, which of the before-excluded companies should come within its operation, and there no mention was made of the mining companies. The better construction of the Act, therefore, seemed to be, that these mining companies were still excepted from the new Act, notwithstanding that they were mentioned in the second section, as this section must be taken merely to refer to those companies which were expressly brought within the operative clauses of the Act. Then, with respect to the discretion of the Court, he (the Lord Chancellor) thought that, even if the company had been within the operation of the Act, this Court ought not to permit the petitioner to put in force the powers of an Act of Parliament that was never meant to apply to such a case. The object of the Act was only to enable shareholders to dissolve a company when the company was unable to meet its pecuniary liabilities. For this purpose, certain tests of insolvency were pointed out—one of which was that of an action being brought against a shareholder, and a refusal by the company to indemnify him. This, however, had in view a *bona fide* claim against the company, and not, as in the present case, an action arising from a quarrel between Mr. Wylde and the plaintiff, with which the company had nothing to do. On both the grounds of appeal, therefore, first, that the company itself did not come within the provisions of the Act, and, second, that if it did, the Court had a discretion in the matter, which it would not exercise in such a case in favour of the petition—the order of the Court below must be reversed.

QUEENANGER COPPER MINES.—These mines, for the working and exploration of which a small company has been lately formed in London, are in the province of Finnmark, in Norway; they are situated on the opposite side of the great alpine Finmark chain of mountains, about seven English miles to the south-east of the trading establishment of Baderen, on the eastern side of the Queenanger fiord. The ascent to the workings is gradual and regular, being about 500 or 600 feet above the limits of the birch trees, or about 2000 feet above the level of the sea. Within a short distance of the mines is the Kjekkan river, which is well supplied with water, and capable of furnishing sufficient power to drive any machinery that may be necessary for the reduction of the ore. The country in which the lodes are situated is composed of greenstone, clay-slate, schistose limestone, and a breccia composed of fragments of the three former rocks, cemented together with an argillaceous substance. These rocks are all of the transition series, and the variety of greenstone is that termed by geologists diorite, and here, as well as in many other places, is found very metalliferous. The lodes are eight in number, and are at a considerable distance from each other, some being more than two English miles from the first discoveries. The run of the lodes are excessively irregular—some incline to about north-west and south-east, with a dip of about 80° south-west, while the others have a direction of west of north, and east of north, with a dip of about 70° north. The mineral deposit is generally found in quartz. On the surface, in general, a rich gossan is discovered, intermixed with blue and green carbonates of copper; on further exploration, the grey sulphurets, rose copper (Buntkupfererz), yellow copper pyrites, are found disseminated with magnetite iron, specular and oxydulated iron ore; in several instances blocks of solid pyrites, of 15 to 20 per cent., weighing from 4 to 5 cwt., have been broken from the mine. The mines were first discovered in the year 1836, and were worked but inefficiently by a few private individuals, but their capital not being sufficient to develop the resources of the property, the present company has been formed to carry out the workings in a systematic and efficient manner. Several hundred tons of ore have already been raised and smelted, and the average produce, which has varied from 6 to 10 per cent., has been found to have been in more than proportion to the limited capital which was afforded for the development of the establishment. The proximity of these mines to the establishment of the Alten Mining Association, which is about 40 miles distant, will afford them great facilities in the early realisation of their produce, by having it smelted at the works which have been so successfully established there the last 10 years. The land on which the mines are situated are held under an absolute grant from the Crown, and the company have a total exemption from all tithes, royalties, or dues. The proprietors are likewise in possession of several important remissions in regard to duties, on whatever materials, &c. they may import from England for the use of the mines. About 100 labourers are at present employed in the establishment, and there is no doubt that, under the present judicious management, in the course of a few years, these works will hold a prominent and important position among the Norwegian mines.

GREAT ST. JUST CONSOLS TIN AND COPPER MINING COMPANY.—While the rage for emigration to California, to gather the golden sands of that far distant region is still scarcely undiminished, it is pleasing to find that the large deposits of mineral wealth nearer home are not disregarded, and that the new year opens with far better prospects for the future, than at the commencement of the past eventful one. Among other localities which are at the present moment drawing the attention of capitalists to their exploration, is that of St. Just, in Penwith, in the western division of Cornwall, and long estimated as one of the richest mineral districts in the country. A company is just established to work the above-named mines, consisting of three distinct sets, Wheal Mexico, Stennack, and Gever. These mines, when formerly worked, made large returns of ore, but never having been aided by machinery have been opened to comparatively shallow depths, and no doubt continue still in a state for profitable operations. We have before us the prospectus issued by the company, which states that the set extends about one mile on the course of the lodes (of which 12 have already been discovered, and worked on the backs), and from one-half to three-quarters of a mile from north to south, and a lease for 21 years has been obtained, at the certainly unusually low dues of 1-20th, and it is proposed that the capital raised be 10,000*l.*, in 5000 shares, of 2*l.* each, though it is fully expected that half that amount, in consequence of the favourable condition of the several shafts, adits, pitwork, &c., will be amply sufficient to lay open the several lodes, and produce a permanently profitable undertaking. Reports from Capt. H. Francis, T. Hooper, and J. Hosking, who have severally inspected the sets, have been received, which are of a highly favourable nature; they consider that a steam-engine of from 36 to 40-inch cylinder would drain the mine to a depth of 240 fms., and from their long experience, and extensive knowledge of the district, they believe it to be a most encouraging and highly profitable speculation.

NECESSITY THE MOTHER OF INVENTION.—The existing commercial and manufacturing depression has, it will be seen, stopped in the bituminous districts about one-fifth, and in the anthracite districts nearly one-half of the furnaces. These disastrous effects have aroused a spirit of inquiry and economy which is daily producing new and most important results. The astonishing increase in the produce of the furnaces in the bituminous districts takes its origin from the application of steam and engine power to the production of a continuous stream or pillar of blast, in place of the puffing of the old-fashioned wind bellows; and, further, to a discovery of my highly-valued friend, Anthony Hill, Esq., of the Plymouth Works, Merthyr-Tidvil. It is to the science, energy, and research of this gentleman, that the iron trade is indebted for the practical discovery that the cinders produced in the various stages of converting, in our forges, crude or cast-iron into wrought or malleable iron, were capable of being resmelted and reconverted in the blast furnace, and the iron they contained (amounting to 50, 60, and 70 per cent.) could be profitably extracted from them. These cinders formerly were thrown away as refuse, or used only for the repair of our roads and thoroughfares—they are now eagerly sought after, and purchased at values as high as some of our richest iron ores. To Mr. Hill a debt of public gratitude, and something more, is due, which I should rejoice to see properly acknowledged and paid. Mr. Yates, of Rotherham, Yorkshire, has, at his works, at Wingerworth, near Chesterfield, erected blast furnaces of an entirely different construction from those in use in this district, and the plan of which he has patented. They are about 20 feet in height, of a peculiar shape, and are blown with a soft fan blast. When I visited them, a few months ago, they were working admirably, and producing excellent pig-iron, at the rate of 120 tons and upwards in a week, at each furnace. These furnaces, and their blowing apparatus and appendages, appeared to me so simple and inexpensive of construction, in comparison with the huge piles of masonry and ponderous machinery of our blast furnaces and engines in Wales, that I imagined they would create a perfect revolution in the iron trade. In the anthracite districts of our mineral basin, the improvements effected by the late Mr. Crane, and the application by him of hot blast to the smelting of iron with anthracite coal, were acknowledged, certainly not more gratefully than they deserved to be, by those who are interested in the mineral productions of the anthracite districts, wherein the deposit of ironstone or ore is enormous, but its reduction with its accompanying fuel almost new. The recent improvements of Mr. J. Palmer Budd, adopted at his extensive works at Ystalyfera, near Neath, and patented by him, are worthy of the greatest attention. Mr. Budd, who read an admirable paper, explanatory of his improvements, to the chemical section of the meeting, at which my address was delivered, and with the kindest liberality invited the members of the association to visit and inspect his works, has succeeded in economising the use and consumption of an expensive and valuable fuel, and in preserving from positive waste, and applying to profitable use, volumes of heat evolved in the process of smelting, heretofore allowed to escape, productive of no use whatever. *—Speech of T. W. Boker, at Swansea.*

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EASTERN DISTRICT.

EAST TAMAR CONSOLIDATED SILVER-LEAD MINES, in the parish of Beer Ferris, Devon, are situated near the banks of the River Tamar, the settlements of Whitsun, Lockeridge, and Fursehill. In extent they are 358 fms. (nearly a mile) on the course of the lode, and are held under lease from the Earl of Mount Edgcumbe for 21 years, from the 25th of December, 1844, at 1-20th due, until the outlay of the present company (50000) has been repaid them, after which the dues to be 1-15th. Conducted on the Cost-book System, with two-monthly meetings, held regularly in London, when the fullest statements respecting the mines and the accounts are laid before the shareholders. Committee of management, William Alexander Thomas, Esq. (director of Devon Great Consols); O. H. Smith, Esq.; John Browne, Esq.; Secretary, Gustavus Kieckhefer, Esq.; offices, 50, Threadneedle-street, London; manager at the mine, James Wolferstan, Esq.; agent, Captain Robins, jun. The mines, comprised under the name of East Tamar, have been worked at various periods since the days of Queen Anne, and have yielded large quantities of silver-lead ores. In the latter part of 1844, a London company obtained the present lease, and commenced operations in April, 1845, by clearing up six different shafts 40 fathoms under the adit, of 30 fathoms deep, and cleared old levels, and made new—in all, nearly 3000 fathoms; this, in addition to erecting expensive machinery, was met by a subscribed capital of 15,7500, and ores raised and sold amounting to nearly 10,0000. During the commercial crisis in 1847, the holders of the greater part of the shares became bankrupt and insolvent, and in consequence, the mine was suspended, and the present company entered into negotiations with the old, and eventually purchased the whole concern, with machinery, valued at 80000, and all the benefit of the large outlay in opening the mine as above-named, for 51750. This sum was provided by a subscription of 11s. 6d. per share, on 9000 shares, and a call of 2s. 6d. per share since paid, makes the amount paid up by the present company 14s. per share. Mr. James Wolferstan was appointed manager, and operations commenced in April, 1848, and the returns of lead have been, to end of December last, 217 tons, yielding 25170. The present returns are 30 tons per month, which very nearly meet the cost; but, as a great quantity of dead work had to be done underground in opening and clearing levels, and at surface, in making dressing floors, &c., the expenses should not rightly be considered as current cost; and as, according to the manager's last report, considerably more ore ground has been laid open than taken away, he considers he will, ere long, be in a position to make good profits. The matrix of the lode is fluor-spar, which realises from 7s. 6d. to 10s. per ton, and of which a very considerable quantity (upwards of 1000 tons) is for sale. Some few years ago East Tamar, in conjunction with South Tamar, was worked under the name of Beeralston, and created extraordinary excitement at the time; but, owing to the reckless and extravagant system of management, ended in disappointment and ruin, though vast quantities of silver were brought to London at different times, and, at each time, the whole mail was engaged to take it! The establishment in London consisted of seven directors, with large salaries, and two managing directors at the mines, with salaries of 80000 a year each. The offices in Bishopsgate-street were like a palace, and an usher, with a gold stick, stood at the door. That the company soon failed is, therefore, not to be wondered at; and to contrast its expenditure with the present, we may add the expenses in London now amount to less than 7000 per annum, and in management at the mines 2000; whilst in the purchase of materials, and, in fact, in every department, the most rigid economy, consistent with prudence, is carried out.

[To be continued in next week's Mining Journal.]

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—Captain T. Angove (Jan. 26) reports.—The lode in the 16 ft. level end is about 24 feet wide, thin, and composed principally of white iron; in the adit end east we have not yet cut the lode; the pitches in this level are without alteration. The lode in the winze sinking under the adit level is producing 6 cwt. of lead per fathom. The stopes in the back of the 16 ft. level are producing about the same quantity.

BEAM (TIN) MINE.—Mr. Walter Treleavin, the purser (Jan. 24), reports.—We have on this mine an excellent 50-hp cylinder steam-engine, with two very good boilers, complete, and about 100 fms. of pit-work, equal to new. The pumps vary in size from 8 to 30 inches. There is also a 36-inch diameter water-wheel, with a drawing machine, and the necessary materials attached to the same, for working the mine on a liberal scale. There are five stamping mills, which work 33 heads, and they are in good repair. There are eight shafts, 50 fms. of which are cleared and repaired to the 10 ft. level, two shafts to the 20 ft. level, and one to the 32 ft. level. At present, the tribute-pitches are producing upwards of 6 tons in 10 ft. per month, and we shall have no difficulty in increasing the quantity as the 32 ft. level is laid open, which will be done as soon as possible. The tin is of excellent quality, and sells for grain tin.

BEDFORD UNITED.—Capt. James Phillips (Jan. 31) reports.—At Wheal Marquis, the 163 ft. level south is progressing favourably. In the 90 and 80 ft. levels east there is no alteration. The lode in the 70 ft. level east is 18 in. wide, producing stones of ore; the pitches continue to yield good returns. We weighed, at 36 ft. level, on Friday, Nov. 19, 117 tons 19 cwt. 2 qrs., and sampled Dec. 18, 116 tons.

CWM ERFIN.—Capt. A. Francis and S. Nichols (Jan. 26) report.—Since you last heard from us we have put the men in the western end, to rise on an angle of 45°, and there is a pretty good lode in the rise. Our 20 ft. level east has not been quite so good as it was, but at present is producing some good ore, and opening very fair ground; our stopes behind the end is looking well—all the stopes are. The 10 fathom level is yielding from 8 to 16 cwt. of ore per ft. Our dressing is proceeding satisfactorily. The wheel-pit will be completed to-morrow, and we shall lose no time in the erection of the wheel. Had we not better order the drawing-machine at once, so as to be ready by the time our new wheel gets to work?

DEAN PRIOR AND BUCKFASTLEIGH.—Captain H. Choake (Jan. 31) reports.—In the 40 ft. level, west of cross-cut, the lode is somewhat improved; I have put the men to cut into the wall, or hanging ground, to the south, where we broke some fine stones of ore of superior quality, being grey ore and red oxide; this part of the lode appears to be falling in with the main part going west, which is a good indication, the main part being composed of more spar than ever I have seen in this level; in the end, driving east of cross-cut, the part of the lode that we are now carrying has a more favourable appearance, being composed of a quantity of muddle, and water issuing from the lode; we have been obliged to put in timber to secure the south ground and back of the level also, the ground to the south being crushed, occasioned, as I am of opinion, by the branch that is gone off to the south from the cross-cut, which is spangled with yellow and variegated coloured ore; it will be necessary, when driven some 3 or 4 fms. further, to cut into this part, or limb, of the lode, to ascertain its size and properties; no alteration in price since my last report.

DEVON AND COURTENAY CONSOLS.—Capt. N. Secombe (Jan. 30) reports.—The lode in the end driving west at the 40 ft. level, is 20 in. wide, composed of muddle, spar, and spots of ore. In the end driving east, at the 50 ft. level, on the south side, the lode is 2 ft. wide, on the south part of which is a leading branch of ore 4 in. wide—very good. The north part of the lode is composed of capels, muddle, &c.

EAST BIRCH TOR (TIN).—Capt. T. Moyle (Jan. 31) reports.—The lode in the shaft has improved during the last week; we have cut into the north wall of the lode; it is about 5 ft. wide, and tin throughout; I anticipate a still further improvement as we get a little deeper; we find a branch dropping in from the north wall, which will unite with the lode at a little depth; and, as usual in such cases, will then, we expect, make a very good bunch of tin. We are getting on with the rest of the work as fast as we possibly can.

HOLMBUSH.—Capt. W. Lean (Jan. 30) reports.—The great cross-course, in the 132 ft. level, west of the diagonal shaft, is at present hard; we have passed through one hollow part of it, and hope soon to reach another, beyond the hard bar we now have; the ground in the cross-cut north, in this level, is favourable, but as yet we have not reached the lode. The lode in the 120 ft. level south is 2 ft. wide, composed of spar and stones of lead, saving work for the stamps. The lode in the 110 ft. level south is 4 ft. wide, producing at times large stones of lead, and opening tribute-ground. The flap-jack lode, in the 100 ft. level east, is 18 in. wide, composed of muddle, spar, and stones of copper ore, of good quality, ground still favourable for exploring. We sampled at Calstock Quarry, on Friday last, our parcel of copper ore, computed 55 tons. There is an improvement in a pitch, in the bottom of the 120 ft. level, west of the great cross-course; the lode is 16 in. wide for 2 fms. in length—we are about 23 fms. below the level.

KIRKCOUBRIGHTSHIRE.—The agent (Jan. 27) reports.—The lode in the 40 ft. level, east of Stewart's, is about 1 foot wide, with spots of lead occasionally in it. The lode in the winze under the 30 is about 18 inches wide, with a bunch of lead east of the lode in the eastern end. The 30 east is still in productive ground. The lode in the 20 east has much improved to-day, having discovered a good branch of lead. I hope this may prove to be the same shoot that we had in the level below. We have put a cargo of lead on board to-day.

MENDIP HILLS.—Capt. F. C. Harpur (January 29) reports.—In sinking below the 30 ft. level the lode is at present in a disordered state, being split into branches; the principal branch is about 2 ft. 6 in. wide, composed principally of flouken and spar, interstratified with some small spots of lead. In the slag department, the bed of stuff continues much the same as last reported on, being from 15 to 16 ft. thick, yielding some very good slag and a quantity of alimes. During the past week, we worked the furnaces 25 hours, which produced 1 ton 18 cwt. 1 lb. of lead.

SOUTH WHEAL TRELAUNY.—Capt. W. Lean (Jan. 27) reports.—The lode in the 30 ft. level north is 5 inches wide, composed of barites and spots of lead, making a good wall, with a moderate underlie east—ground more favourable than it has

been (this will appear from the setting list); the spar branch in this level (north), has been disordered by the small cross-course we met with in the other level, but is now clear from it, and appears to form itself again to the north of it.

TAMAR SILVER-LEAD.—Capt. J. Spargo (Jan. 29) reports.—In the 190 end, south of the shaft, the lode is 1 ft. wide, good stamp work. In the 175 and 160 end, the lode is 1 ft. wide, composed of capel, spar, and ore, saving work, but not rich. In the 160 end the lode is 1 ft. wide, producing good stones of ore. In the 145 end the lode is 3 ft. wide, opening profitable ground. In the 135 end the lode is 6 in. wide, rich work. At North Tamar, in the 80 ft. level, we have driven west 6 fms. 5 ft. 6 in., the ground is very hard for driving. In the 70 and the lode is still large, with occasional good stones of ore. In opening ground on the eastern part of the lode, in the same level, the lode is 2 ft. wide, and yielding work of a good character. Our last parcel, computed 87 tons, was sold to S. Somers, Esq., at 187. 17s. 6d. per ton.

TINCROFT.—Capt. P. Floyd (Jan. 29) reports.—At Palmer's shaft, on East Pool lode, the 90 ft. level west is 5 ft. 6 in. for copper. In the 80 ft. level west the lode is 6 ft. 6 in. for copper. In the 70 ft. level west the lode is 1 ft. wide, with occasional stones of copper ore. At Stainaby's shaft our progress in sinking has been impeded, owing to meeting with a hard bar of ground, and an increase of water. At North Tincroft, the lode in the 100 ft. level east is 7 ft. 6 in. for copper; the 160 ft. level west is 7 ft. 6 in. for copper. In the 90 ft. level east the lode is 10 ft. 12 in. for copper; the lode in the 90 ft. level west is 20 ft. 6 in. for copper. In the 80 ft. level, east of Willoughby's shaft, the lode is 8 ft. 6 in. for tin and copper; in the winze, sinking below this level, west of engine-shaft, the lode is 10 ft. 12 in. for copper. On Highburrow lode, in the 152 ft. level, east of engine-shaft, the lode is 4 ft. wide, worth 6 ft. 6 in. for tin. In the 142 ft. level, east of Martin's east shaft, the lode is worth 11 ft. 6 in. for tin; the stopes in the back of this level, east of the shaft, are worth 20 ft. for tin; the stopes west, in the back of this level, are worth 15 ft. 6 in. for tin. In the 132 ft. level, east of Martin's east shaft, the lode is worth 20 ft. 6 in. for tin; the lode in the west end, same level, is worth 18 ft. 6 in. for tin; the stopes east, in the back of this level, are worth 18 ft. 6 in. for tin. On Chapple's lode, in the 100 ft. level, west of downright shaft, the lode is 2 ft. wide, saving work for tin. In the 90 ft. level west the lode is worth 10 ft. 12 in. for fathom on tin; the lode in the winze, sinking below this level, is worth 8 ft. 6 in. for copper. In the 80 ft. level west the lode is worth 6 ft. 6 in. for tin and copper.

TIN VALE.—Captain J. Hoeking (Jan. 27) reports.—The lode in the adit level, west of cross-cut, has recently improved; the tributors are earning good wages at 10s. in 11. I have set the end and back of the level, west of the former pitch, at 10s. in 11; the lode in the end is 1 foot wide—saving work. No alteration in the stream-works since last reported on.

TRELEIGH CONSOLS.—Capt. W. Symons (Jan. 26) reports.—At Garden's shaft, we have sunk below the 113 ft. level. In the 113 ft. level, west of ditto, lode 3 ft. wide, which has a kindly appearance, with stones of ore; the east end is suspended for the present. In the 100 ft. level, west of ditto, lode 15 in. wide, with stones of ore and looking more promising. In the 80 ft. level, west of ditto, we intend cross-cutting north to another part of the lode, which we calculate 3 or 4 fms. distant from the present 80 ft. In the winze, below the 90 east, we have 6 or 8 ft. more to hole to the 100 ft. level; these men have taken this on tribute; after this is communicated they will stop the bottom of the 90. In the 60 ft. level, west of ditto, lode 15 in. wide, with good stones of ore, and at present likely to improve. In the 30 cross-cut, south of Parent shaft, to cut the lode, we have cut a branch which we shall drive east, only a part of the same men at the same time sink the cross-cut. We have sunk the winze below the adit east of Wheal Parent, 10 or 12 fms. east of the adit, and cross-cut in a ore lode, the value of which shall be sent in the next report. Ground driven last month, now suspended.—The 90 east, east cross-cut, is driven east nearly to the cross-course, or alide; in the 70, west of Garden's, these men will assist in cross-cutting; the 80 west adit, east on middle lode, is suspended.

WEST WHEAL JEWELL.—Capt. R. Johns (January 29) reports.—In the 70 ft. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is unproductive. In the 57 ft. level, west of Williams's cross-course, on the same lode, the lode is worth 2 ft. 6 in. for tin. In the 57 ft. level east, on the same lode, the lode is worth 2 ft. 6 in. for tin; in the rise, in the back of the 57 ft. level, west of Williams's cross-course, on the same lode, the lode is worth 4 ft. 6 in. for tin. In the 47 ft. level, west of Williams's cross-course, the lode is 2 ft. wide, worth 6 ft. 6 in. for tin. In the deep adit, west of Hodges's cross-course, on Wheal Jewel lode, the lode is unproductive. No lode taken down in any of the levels on Tolcarne tin lode in the past week. The stopes in the back of the 19 ft. level, east of Fryer's winze, on Tolcarne tin lode, are working on tribute, worth 8 ft. 6 in. for tin; ditto stopes, west of the same winze, are working on tribute, worth 18 ft. 6 in. for tin; the stopes in the bottom of this level are working on tribute, worth 18 ft. 6 in. for tin.

WHEAL SARAH.—Capt. Trevarren (Jan. 30) reports.—I have received your letter, with a plan, or rough sketch, how to proceed at the 20 ft. level south, when the end is parallel with the south engine-shaft. According to your scale, drawn on the plan, the cross-cut will come into Mayhew's shaft 11 fms. deep. You say it would be wise to sink the cross-cut, and that the rise should be the rise of the shaft, for air, as well as for hauling down, &c., from the cross-cut driving to the above shaft. You have also written me to be careful to gain levels instead of lose, so that the water may fall away to the south shaft from the old mine, and that your intention is to put in a 10 inch lift, to take this water in this level, so that it may go over the wheel. You also write me to think this plan over, and if I could see any objections I was to point them out to you by return. I beg to say that I can see no plan that we can work to advantage, except the one proposed by you; the only thing you have not mentioned is the stream of water that is coming from the side of the shaft, about 6 ft. from the surface. We must either rise this to the surface, or convey it to the eastern in the 11 ft. level by pipes; however, this will be no hindrance to us for some time. The lode in the south end, in the 20 ft. level, is about 2 ft. wide, with a leader of lead about 6 in. wide; the remaining part of the lode is white iron, carbonate of lime, and spots of lead. There is an elvan that crosses the lode in this level, north of the shaft, but I am happy to tell you that we are hauling some of the elvan which is raised in this level, and find it contains a quantity of lead, and there is every reason to expect, by driving a short distance, we shall find a good lode. The tribute-pitches are looking well, and the men getting good wages. We have five pitches working, and hope to set others on Saturday, according to your proposals. We hope to sample several tons of lead by the end of February. Our other work is getting on satisfactorily; we shall commence sinking Mayhew's shaft next week.

WHEAL TREMAINE.—Capt. W. Blewitt and J. Phillips (Jan. 29) report.—The lode in the 70 ft. level, east of Alexander's, is 1 ft. wide, with a small quantity of copper ore in it; we have about 5 fms. more to drive this level to get under the grey ground driven through in the level above. The lode in the 50 ft. level, west of Madden's shaft, is 2 ft. wide, producing moderate work for tin; we have set a pitch in the back of this level, the last ground driven through—tribute, 4s. in 20s.; the lode in the 80 ft. level, east of the said shaft, is 2 ft. wide, producing some tin, and opening tribute ground. The lode in the 40 ft. level, west of the said shaft, is 2 ft. wide, with some tin in it—opening tribute ground; the lode in the 40 ft. level, west of the said shaft, is small and poor at present. The 30 ft. level, on the south lode, west of Field's shaft, is put through to Wheal Margaret shaft; the grey ground in this level is continued within about 3 fms. of the aforesaid shaft; the lode about the shaft is poor, and in a disordered state; I put in several pits; we have commenced driving the aforesaid level west of the said shaft; according to the present appearance, we shortly expect those parts of the lode will fall together, and prove profitable to us here. We are preparing to fix fast-roads from the engine to Wheal Margaret shaft—the expense of which will be great; we have all suitable materials for the erection in the mine; we expect it will take about two months more to see the lode 10 fathoms deeper at Wheal Margaret shaft. Looking at the indications in the 30 ft. level, we have every reason to believe we shall find a good lode. In the 40 ft. level, at the same time we are sinking the aforesaid level west of the said shaft; we shall be driving the 30 fathom level with all speed west of ditto; so in about three months more, we shall see a great deal more of this part of the mine. The new shaft is sunk to the 33 ft. level; this level has been suspended for some time, waiting for the communication of the aforesaid shaft, so we shall commence driving the said level west of ditto immediately. The lode in the 45 ft. level, west of new shaft, is 1 ft. wide, producing rich stones of tin; we have set a pitch in the back of this level on tribute, at 4s. in 11. All other parts of the mine are much the same as when last reported on.

WHEAL VINCENT.—Capt. J. Spargo (Jan. 30) reports.—We shall commence breaking tin from the south lode next week, as well as commence driving close on the lobby to the wheel-pit. Our smith is getting on well with the rods and other work.

FOREIGN MINES.

ALTEN MINES.—The following is the estimated produce for Nov. 1—

Mines.	Tons of ore.	Per Cent.	Fine Copper.
Raipas	50	64	3.12
Old Mine	26	6	1.56
United Mines	43	6	2.10
Ryper's	4	6	0.24
Mancher's	4	6	0.24
Michell's	5	9	0.45
New Lodes	6	6	0.36
Carl Johan's	6	9	0.54
Total	136		8.69

Mining Report from the 27th November to 10th December, 1848.

Raipas.—A material improvement has taken place in the appearance of the several workings since the date of my last report. A continuation of Labouchere's lode, containing good prilly ore, has been found in the roof slope above the 10 ft. level; the prospects are very flattering, and the quality of the produce will be better than has hitherto been the case. We have commenced a new level from Monk's shaft in the 10, for the purpose of intersecting the lode at this depth, which we expect to accomplish at a distance of 3 or 4 fathoms. The other workings show evident signs of improvement, and the produce of the new lodes in the 20 has also increased. The 15 ft. level has been holed to the winze from the 10, and we have commenced the preparatory work for sinking Monk's shaft under the 20. In cutting ground, the pantheon several small veins of ore were found, and the whole of the country appeared to be impregnated with small spots or nodules of purple ore, which leads us to feel sanguine of success at a deeper level, where we hope the lode will be found more concentrated and regular. We have again resumed the transport of ore to the smelting-house, and with next post hope to be able to show some good returns in the usual delivery note, which will be then handed you.

United Mines.—The improvement noted in my last report is now pretty general throughout all the workings, with the exception of one of the old stopes, where the ore is almost exhausted. We expect the December produce will be somewhat greater than that of last month. The tributors at Woodfall's continue to make fair returns of ore of an improved percentage on the whole the prospects have again materially brightened.

Old Mine.—The tributors' returns are still satisfactory, and the prospects continue favourable. We have commenced a sink in the western part of the mine for the purpose of opening tribute ground; the lode has developed itself favourably already, and we expect it will soon yield profitable returns. The sink is now worked on tattoo, with a tributor on the ore level.

Ryper's.—The workings at this mine are also improved; the returns continue satisfactory, and, in proportion to the number of hands employed, the produce answers our expectations. The whole of our operations here are at present confined to tributes.

Mancher's.—The tributors continue to make small but remunerative returns, and the produce, on the present limited scale of working, is satisfactory.

Michell's.—The returns from the new lode have hitherto been more fluctuating, and the prospects of this part are not quite so favourable; the ore is rather less, but the quality continues good, and we expect the next delivery note will be somewhat satisfactory. One of the old stopes, which has been resumed on tribute, and the prospects and produce fully equal our expectations.

Carl Johan's.—The new lode continues remunerative. As yet we have no improvement to note in the adit level, where another small vein has been intersected, but it makes no addition to the usual returns.

Quantities.—A tribute pitch has again been set on the new lode at this mine; the re-

turns from hence during the winter will not be great, but we expect they will be found to leave a remunerating profit.

Mining Report from the 12th to the 23d Dec., 1848.

Raipas.—The returns from the recent discovery on Labouchere's lode have been rather fluctuating, owing to a horse having intersected the lode, and somewhat disordered it. The lode in the winze, under the 30 ft. level, has improved; but the ground is extremely hard and difficult to excavate, so that the progress made in developing it is very slow; the lode in this part consists of slate, thickly impregnated with purple and yellow ore, and the returns are more satisfactory than for some time past. In the 20 ft. level, cross-cut north, two or three small veins have been intersected; these contain a small quantity of ore, but are otherwise unimportant to the gossan. In this level, some rounded pebbles of copper pyrites have been met with, of precisely the same kind as those found about two years ago in Labouchere's workings, at the shallow adit; this circumstance leads us to suppose that the main lode cannot be far distant; our calculations show it to be about 3 fms. farther to the northward. The stopes in the 30 continue to yield profitable returns, and the prospects are good. On the whole, the general appearance of the workings at this mine has much improved since the date of my last report. The whole of the produce is not included in the present ore note, on account of the lode having frozen over, and prevented the sloop from reaching the smelting-house. In the course of a few days we may again expect open water, when the usual deliveries will be continued.

United Mines.—No further change can be observed on Ward's lode, the prospects continue favourable, and the returns are regular and remunerative. At Woodfall's, the produce of the stopes and tribute pitches continues satisfactory, and the result fully answers our expectations. The workings on Hook's lode have been resumed, with tolerable good success. The returns from the several workings will experience no deterioration.

Old Mine.—The appearance of the several workings has latterly improved, and the returns have increased both in quantity and quality.

Ryper's.—The lode, although small, is still very promising, and the tributors continue to make satisfactory progress.

Mancher's has undergone no further change; the produce is still small, but we hope it will increase now that some tribute pitches have been resumed in the mine.

Michell's—The operations on the new lode at this place have been suspended during the winter, in the spring we hope to be able to resume them with greater advantage. The stopes on Nellen's lode wears a kindly appearance, and yields satisfactory returns.

Carl Johan's.—The tributors' produce is small, but the quality of the ore is good; the prospects are not quite so permanent as we could desire. The adit level progresses slowly, in consequence of the hardness of the ground.

Quantities.—The workings on the new lode have somewhat improved, but the produce is still very small, and we cannot expect any material increase in the returns during the winter. The accompanying statement of ore delivery for October and November shows the per centage of the produce to be highly satisfactory, and points out the value of the tribute system to the ore-dressing operations.

Raipas, Dec. 10.—With the bearer, Cass Paulson, I forward you a report of the mine, as also a sample of the smalls which are being kept separate from those that we have hitherto been producing from the several workings, and beg you will be so kind to let me know, with the first opportunity, whether I can drive them down in their present state, or if they will be better if we can dress them. In the adit level, the lode is 15 ft. wide, producing rich yellow ore, and wearing altogether a very kindly appearance, the ground at the same time being speedy and favourable for driving. In the foot stopes, under the above-mentioned bargain, the ore continues much the same as when you saw it on Thursday last; there being, up to the present, no alteration whatever. In the northern cross-cut, in the 30 ft. workings, we have met with a facing, which, to all appearance, will soon occupy the whole space of the level, and, in all probability, give us a different winze in the other part of the mine; the lode in some parts is upwards of 9 ft. big, producing rich yellow ore, and wearing altogether a very kindly appearance, the ground at the same time being speedy and favourable for driving. In the foot stopes, under the above-mentioned bargain, the ore continues much the same as when you saw it on Thursday last; there being, up to the present, no alteration whatever. 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UNITED MEXICAN MINING COMPANY.

The half-yearly meeting of this company was held on Wednesday, the 31st ult., at the offices, Finsbury-circus.

Sir JOHN EASTHOPE, Bart., in the chair.

The SECRETARY (Mr. Mather) read the following

REPORT.

It is very satisfactory to your directors to be able to report that, since the last meeting, a continued improvement has taken place in the affairs of the company, which has enabled them to communicate to the proprietors, in anticipation of this meeting, their recommendation of a dividend, at the rate of 7s. 6d. per share, in order that its payment might at once be made, after the necessary confirmation.

Mine of Rayas.—Considerable variations have taken place in the operations carried on, for, although the steady prosecution of the most productive points, both in the old and new workings, have met with interruptions from the rising of the water and scarcity of labourers, still it will be seen that the total profit contrasts most advantageously with that of the preceding year, and promises to continue.

11 months of	Outlay.	Returns.	Profit.
1848	£400,084 6 0	£534,986 4 6	£134,901 8 6
1847	301,499 6 0	315,046 6 4	13,547 3 4

Increase in the 11 months of the past year.....£221,414 3 2

The amount received towards the payment of the debt, in 1848, was £126,176 4 4, which reduced it to £543,262 1 1.

The workings of Santo Toribio, which have produced such rich ore, were impeded by the sudden influx of a large body of water into the pit; this has not only been overcome, but three new points have been opened, and are in excellent order, improving as the workings extend towards the south-east, in virgin ground. In the shaft of San Miguel a partial suspension of operations had occurred, through a portion of the rock having broken away from the side of the shaft, which, for some time, threatened serious consequences, but, happily, it had been effectually secured, and the extraction of ore was going on as usual.

Rayas New Contracts.—These contracts will all expire on the 31st Dec., 1852. Mr. Shoobred has been in negotiation with the owners of the mine for the renewal thereof, upon equitable conditions, so as to secure the paying off the debt due to the company, and to acquire a reasonable return for the employment of your capital. Your directors regret to state that their last letter from Mr. Shoobred, dated 24th Dec., contains the following passage:—"With reference to the negotiations in hand, alluded to in former letters, for a new contract with Rayas, I have now to state, for the information of the court, that, having employed and exhausted all legitimate means in behalf of that object without success, I have been forced to terminate the negotiation."

New Mines.—Mr. Shoobred has at length succeeded in obtaining a contract for a mine, on the terms and conditions carrying with them all the features that are considered necessary to justify a trial thereof. It is situated in Guanajuato, and has been inspected by Mr. Parkman and Mr. Glennie, who have reported most favourably upon it, as a mining adventure. The mine is called Aldana. The terms are 20 years, binding upon the owners, but optional on the part of the company. Sixteen bars, or one third, of the produce to belong to the company; eight bars, or one third, to be the portion of the owners. The company to find the whole of the weekly supplies; and, should any debt accrue on the mine, both the contracting parties are to contribute an equal proportion of four bars each towards its repayment. The company to have the entire and exclusive direction of the mine, the reduction of its ore, and custody of its property.

Haciendas.—A lease has been obtained from the owners of the hacienda of Barrera, for a period of five years, from the 1st of Jan. last. The present lease of Dolores expires on the 30th of June next, and should the owners refuse to renew the agreement, it is intended to enlarge that of Duran (which is the property of the company), by the purchase of land commensurate with its present and increasing wants.

Zacatecas.—Although no actual progress has been made with this long standing claim, still great hopes are entertained that some definitive arrangement will, ere long, be concluded with the Mexican Government, so as to secure to the company its entire liquidation. The company has recently received, from the Viscount Palmerston, assurances that he would urge on Mr. Doyle, her Majesty's charge d'affaires in Mexico, to press the adjustment of the affair on the Mexican Government, so as to bring about an early and final settlement.

Finances in Mexico.—By the last accounts received from Guanajuato it appears that, on the 31st Dec., the available asset on hand was £59,113 6 4, exclusive of Treasury bonds with our agents in the city of Mexico, amounting to £8915 3, and also exclusive of the current expenditure of the district, including contracts of Rayas and Aldana, and purchases of ores for the haciendas of Duran and Dolores.

Finances in London.—The directors beg to call the attention of the proprietors to the following audited account of the finances in London for the past year:—

Audited Account, from 31st Dec., 1847, to 31st Dec., 1848.	
Brought from audited account, to 31st Dec., 1847	£14,174 16 4
Interest	719 8 7
Transfer fees and discount on stamps	47 12 0
Remittances from Mexico—viz., in specie	£236,663 17 1
Bills of exchange	7,809 19 2—36,711 16 3
Total	£251,113 13 2

Ca.	
Amount charged to the management in Mexico, for 650 bottles of quicksilver shipped, and other payments, in respect of which it is to account	£9,307 10 11
London expenses for one year—viz., directors' fees, salaries and wages, rent and taxes, &c. &c.	1,561 12 11
Auxiliary capital	2 10 0
First dividend	352 10 0
Second ditto	462 15 0
Third ditto	9,418 10 0
Stamps for dividends	24 0 0
Cash on hand	£29,959 4 4
Quicksilver, 500 bottles, for shipment to Mexico	6,000 0 0—29,959 4 4
Total	£51,113 13 2

From this amount of £51,113 13 2, must be deducted:—

Auxiliary capital, unclaimed	£1099 10 0
Red Scrip, ditto	1532 15 0
First dividend, ditto	1139 5 0
Second dividend, ditto	823 0 0
Third dividend	1300 0 0—5,594 10 0

Available asset.....£24,094 14 4

The CHAIRMAN, in rising to move the adoption of the report, after briefly advertising to the termination of the negotiations concerning the Rayas Mine, expressed the satisfaction of the board with the favourable terms on which the working of the new mines had been entered into, which is upon the distinct understanding that no money would be required from this country for that purpose. The quicksilver for the reduction of the ore would be, however, shipped from England, for greater economy. The contract which had been entered into, gave the entire superintendence of the mines to the company, who were on their part to supply the whole of the working expenses—the profits to be divided as stated in the report. Mr. Shoobred had estimated that £40,000 would be the required outlay on the mine; but although that might be required, still, at the same time, whatever it might be found necessary to expend, in order to put it in profitable working, a large proportion would arise from the produce of the mine itself in ores. On the whole, the best results were confidently anticipated, whilst the company were considerably enlarging the sphere of their operations in Mexico. The proprietors would see that the company had received, since the last meeting, £28,966. Now, the dividend of 7s. 6d., if the proprietors thought proper to sanction it, would take £16,000; £6000 had already been invested in quicksilver, which was lying ready for shipment in the port of London, and the remainder of the amount was invested in Exchequer Bills. The directors had already sent 9000 lb. of quicksilver to Mexico, so that, in fact, there would be a slight deficit, but for the fund arising from the unclaimed dividend, which the board considered they were fairly entitled to trench upon a little, considering that some of the claims arose as far back as 1829. The unclaimed dividend fund amounted to £5890, and, in his (the chairman's) opinion, of this amount 3000 lb. or 4000 lb. would never be called for. (Hear, hear.) He begged, therefore, to move the formal adoption of the report, which was unanimously carried.

In answer to questions by Mr. MOORE, the CHAIRMAN explained, that the company had no debts in England or in Mexico, and all that they required was money to provide quicksilver for reducing the ores. The necessity of a reserved fund did not, therefore, appear in so urgent a light in reference to this as to other companies.

The resolution, declaring the dividend of 7s. 6d. per share for the half-year payable on the 1st of February, inst., was carried unanimously.

A vote of thanks to the chairman concluded the business of the day.

GREAT ROUGH TOR CONSOLS.

A general meeting of shareholders was held, at the offices of the company Threadneedle-street, on Monday the 29th inst.

W. A. THOMAS, Esq., in the chair.

The accounts for two months having been examined, a call of 2s. per share was deemed necessary to meet present liabilities, and to provide for coming expenditure before the next call will be available. The abstract of accounts showed a balance against the adventurers of 4387 1s. 4d.; December cost, 2697 7s. 10d.; Jan. and Feb. (estimated), 680—1887 9s. 2d. Calls in arrear, 4767. The following report, from Capt. J. H. HITCHCOCK, was read:—

Jan. 27.—As you are already aware, our deepest engine-shaft is Morris's, which is now about 13 fms. below the bottom level, having yet 2 fms. to sink for the completion of the intended shaft, at which increased depth the level will be seen, and explored in the usual way. In the course of sinking from the level above, this shaft has been going through various branches, containing more or less of black oxide of copper, iron, and spar, although indicating favourably for result of intersection of the level in next level. The level in the present bottom level has at last been cut through, proving to be, for the most part, an exceedingly large strong capel, altogether full 4 fms. in width; the north part at first met with, and now being driven on east and west from cross-cut, is undoubtedly the leading part of the level, and will be the surest guide in our exploratory operations for discovery. In the level, which, in places, is from 2 to 3 ft. wide, for the most part carrying spar, with black oxide of copper and iron, but, as yet, being without anything like such a proportion of ore as to meet any portion of the cost of working. In the western bottom level, on the same portion of the level, now also about 3 fms. from cross-cut, there are the same appearances—looking at which, we have no hesitation in recommending the continuation of these drivings, and that, too, by an increased force of two men in each end, respecting which the agent at the mine should be instructed. Looking at the general appearance here referred to, and the benches met with in the shaft, there is reason for expecting much more decided improvement in the next deeper level, which will be 55 fms. from surface. In about a month this shaft (Morris's) will be down to that depth, and, judging from the present underlie of the level in the cross-cut above, there will be but little, if any, to drive for its intersection. In the eastern engine-shaft (Thomas's) bottom cross-cut there is now again favourable ground (killed), after having

gone through a run of capel, with flouken and clay; the present end is now about 64 fms. from shaft, there being yet, according to assumed underlie of the level, about 6 fms. more to drive, which will probably occupy about six weeks more in accomplishing. There is a great deal of water coming out of the ground in this driving, which is also very much shaken, such features admitting of favourable interpretation. In addition to former favourable expressed opinions as regarding this concern (looking forward to ultimate results thereof), I have to state that I am still as sanguine as at any time about its cross-course, some time since alluded to as having been met with, being now more distinctly shown. The engine continues to work very well, as also the new pitwork.

HOLTYFORD COPPER MINING COMPANY.

The general half-yearly meeting of shareholders was held at the offices of the company, Great Winchester-street, on the 29th January.

EDWARD HUNT, Esq., in the chair.

After the usual preliminaries, the following report of the directors was read:—

The directors beg to submit to the shareholders the balance-sheet, and account of expenses and produce of the mines, made up to the usual period. [The statement of accounts was here read.] A reference to the accounts will show that the expenses have again been heavy during the past six months, partly for the completion of the payment of the engine and surface works, roads, &c., and it has partly arisen from a considerable falling off in the quantity of ore raised. It will, however, be seen, by the following report of Capt. John Lyle, that there has been a great improvement during the past month, and the prospects are both promising and encouraging. It is also satisfactory to know that the ore continues of the same rich quality.

Holtyford Mines, Jan. 24.—We have driven the adit level 23 fathoms north; the level has been small, and the ground disordered: the last 2 fms. the ground is more favourable; the level in the end is about 1 ft. wide, composed of killas and gossan. The 10 fm. level north has been driven 19 fms. 3 ft. 4 in.—level varying from 6 to 14 in.; the last 3 fms. it has been 1 ft. wide, solid ore; the level in the end at this time is 1 ft. 10 in. wide, solid, and worth 1000 lbs. per ton; this level is now under the ore ground which we drove through in the adit level, as you will see in the last report. The 10 fm. level south has been driven 12 fms. 4 ft.; the level has been from 9 in. to 1 ft. wide, solid, and now, in the end, it is 8 inches solid. The 17 fm. level, north of the wheel-shaft, has been driven 18 fms. 4 ft.—level about 1 ft. wide, with good bunches of ore, and of promising appearance; at present the level is 3 in. wide, with stones of ore. The engine-shaft has been sunk under the 10 fm. level 7 fms. 3 ft., which is to the west of the level; the ground has been very hard, for the last 3 ft. it is much improved, and we hope to get down to the 30 fm. level next month. The wheel-shaft is sunk under the 10 fm. level—level from 9 in. to 1 ft. wide, with a very good branch of ore in view. The first shaft has been sunk under the 17 fm. level 3 fms. 1 ft. 8 in., and the ground hard. The winze has been sunk under the 17 fm. level 3 fms. 3 ft.; the level for the first 6 ft. was about 10 in. wide, solid, after which it became small, but is again improved, and is now about 6 in. wide, 4 in. solid. We have commenced sinking a winze in the bottom of the adit level, 20 fms. to the north of the last winze; the level in it is 10 in. wide, very good. Looking at the ore ground which we drove through in the adit level, and the improvement which we have in the 10 fm. level north, I hope we shall find this more productive than was first calculated on. Old Forge engine-shaft has been sunk to the 10 fm. level, and a pit cut, where the level is 9 ft. wide, with spots of ore; since which we have sunk the shaft 2 fms. 1 ft. 9 in. under the level; the level is underlying a little to the north, and is nearly gone out of the shaft. We have, the last two days, cut into it, and find the level very much altered in appearance; it is producing large stones of nearly solid munda, with some spots of copper. The 10 fm. level is driven east 9 fms. 2 ft. 8 in.; the level in the end is about 1 ft. wide. The shaft in the eastern hill is communicated to the adit level, and the adit driven east of the shaft 9 fms. 3 ft. 8 in.—level about 4 ft. wide, with a promising appearance, and I have no doubt, in depth, will make a great quantity of ore.—J. LYLE.

The arrangement, referred to in the last report, is completed with Low's Patent Copper Company, to smelt the produce of the mines, and proceeds satisfactorily, showing a much better result than if the ore had been sent to the public ticketings at Swansea.

The directors and auditors' term of office expires at the present meeting, but they are eligible for re-election, and offer themselves accordingly.

The report of the directors was then approved and confirmed, and Edward Hunt, Frederick Le Mesurier, and Charles Hunt elected directors, and Arthur Hunt and William Brock auditors, for the ensuing year.

TREGORDAN MINING COMPANY.

A general meeting of shareholders was held at Liskeard, on Thursday, the 26th January, when the accounts for September, October, and November, were examined, showing a balance of 2957 18s. 2d. against the company—a call of 2s. per share was made. The following report was read from Capt. W. Bryant:—

Jan. 24.—The engine-shaft is sunk to the 20 fm. level on the course of the level, and a level driven north at the bottom 4 fms., where the level is 2 ft. wide, composed of capel, flouken, carbonate of iron, quartz, and lead, carrying a leader in the middle, 10 in. wide, interspersed with rich silver-lead ore, which, when dressed to produce 14 to 20 70 lb. lead, has been found to yield by assay upwards of 150 ozs. of silver to the ton of ore; the level in the present end is in a disordered state by a flouken course which intersected the level in an oblique direction, and is now going on with it. From the large gossan level, sunk on 85 fms. north of the engine-shaft, and which contains some fine stones of silver-lead ore, we expect an improvement shortly as we proceed in this direction; price for driving 40s. per fm. The 20 fm. level is driven south 3 fms., where the level is 2 ft. wide, composed of flouken, carbonate of iron, and quartz, interspersed with silver-lead ore; the level in this end is more compact than to the north of shaft; price for driving 70s. per fathom. The engine keeps the water with great ease; and we are now erecting stamps, with six heads, to be attached to the same engine, which we expect to get to work in three weeks from this time, when we shall be enabled to make returns.

TREHANE MINING COMPANY.

A general meeting of shareholders was held at Liskeard, on Thursday, the 26th Jan.—Mr. J. PHILIP in the chair.—The accounts for September and Oct., showing a balance of 7361 19s. 9d. in favour of adventurers having been passed, a dividend of 2s. per share was declared.—The accounts showed—Balance, end of Aug., 6942 2s. 4d.; lead ore sold, 14337 7s. 6d.—20277 4s. 10d.—Labour cost for Sept., 8321 19s. 10d.; ditto for Oct., 3217 13s. 4d.; materials for both months, 1897 14s. 1d.; Trelawny adventurers, for use of engine and water, two months, 397; lord's dues, 932 2s. 10d.; paid dividend, Nov. 23, 8207; leaves balance now in hand, 7361 19s. 9d. The following report from Capt. S. Richards was read to the meeting:—

Jan. 25.—Kelly's shaft is down 7 fms. 2 ft. below the 55 fm. level; the ground in the last 4 ft. has been rather hard for sinking, owing to a sparry branch, which we have now passed through, and the ground is again favourable. The level in the 55 fm. level north is about 10 in. wide, composed of capel and iron, with some stones of lead; the level in the present end of this level is producing on an average 4 tons of lead per fm. In the 45 fm. level north the level is much improved in appearance, worth at present 3 or 4 cwt. of lead per fm., and the ground is much easier of progress than it has been for some time past; the level in the steps, in the back of this level, is producing about 9 cwt. of lead per fm.; the level in the back of this level south, and bottom of the 30 fm. level north, is turning out tolerably well. In the cross-cut west, in the 30 fm. level, now driving 49 ft. fathoms, we are still in clean killas ore; present price for driving 4 ft. 10s. per fathom. We sampled, yesterday, 75 tons of ore of very rich quality.

LELANT CONSOLS.—A meeting of adventurers took place at Sealy's Hotel, Marazion, on Wednesday last. The pursor, Mr. Wm. Richards, produced the accounts for the four months ending Dec., which showed a balance *contra* of 3607. There was no call made; and the present condition of the mine warrants the hope that, ere long, she will prove a second Wheal Margaret. The adventurers are in high spirits at the very encouraging prospects.

PENZANCE CONSOLS.—At a meeting of adventurers, held at the Wellington Inn, St. Just, on Wednesday last, the pursor, Capt. Cartwright, presented the accounts for the five months ending Dec. last, which showed a balance against the mine of 842 10s. A call was made of 2s. per share. From the report read, the prospects of the mine were considered highly favourable.

WEST UNITED HILLS.—A meeting of adventurers was held on Tuesday, the 30th January, at the Queen's Arms Tavern, Cheap-side.—THOMAS CAMPBELL, Esq., in the chair.—when it was unanimously resolved, that a managing and financial committee of adventurers be appointed, with full power to carry on and conduct the mines, and every matter and thing relating thereto, and to dismiss officers and servants, and appoint others, as they might think fit; and that Messrs. Campin, Williams, Todd, Carey, and Nicholson, be appointed such committee, with power for them, or any three of them, to act.

WHEAL MARY CONSOLS AND WHEAL SISTERS.—At an adjourned meeting of shareholders in Wheal Mary Consols, held at Liskeard, on the 18th Jan., it was resolved that the arrangement under which Wheal Mary Consols and Wheal Sisters Mines have been carried on for the last few months, as one concern, appearing to be for the benefit of the adventurers of both mines, it is now agreed to make it permanent, and that the number of shares in the joint concern be 2500, less the shares resigned. Wheal Sisters adventurers to hold three new shares in the joint concern for every share they now hold in Wheal Sisters; and Wheal Mary Consols adventurers to hold seven shares in the joint concern for every share now held by them in Mary Consols. The united sets to be designated "Wheal Mary Consols." Any shares that have been resigned in either mine will lessen the total number of 2500, and the sums payable for materials in respect of such resigned shares will be to be provided for out of the joint property; and as part of the materials at Wheal Sisters will probably be sold, the proceeds of such sale are expected to provide funds to pay off the retiring shareholders in both mines, thereby avoiding the necessity of a call for that purpose.

It is reported that a new company has been formed for smelting copper ores, and that they intend erecting works at Red Jacket, near Neath River and Tennant's Canal, and between Neath and Swansea, about three miles distant from the former, and five from the latter town.—*Swansea Herald.*

Bryndyd Colliery is at a complete stand-still, the workmen having turned out to a man against the reduction of wages.—*Ibid.*

CHEF CWAIC INOX WORKS.—The mine works are entirely stopped, but there are strong hopes that active operations will, ere long, be resumed.—*Ibid.*

The arbitration case, South Wales Railway Company v. Sir Thomas Aubrey, Bart., upon which a lengthened inquiry was held in Swansea lately, has been decided by the umpire, George Davies, Esq., of Parliament-street, London. The amount claimed was 41327; the company offered 20000; and the award is 21167; consequently, the claimant will have all his own costs to pay, and half the costs of the arbitration.

A joint-stock company has been established at Edinburgh, with the object of taking farms in the west of Ireland, and cultivating them on the most improved principles, by Scotch stewards.

THE KAPUNDA COPPER MINES, SOUTH AUSTRALIA.

Sir,—Observing, from time to time, that you take great interest in the mining operations in South Australia, and that in your Journal of last week, reference was made to the death of Capt. Richards, mineral agent to the Kapunda Mines, I think it but a tribute due to the memory of a most honourable and able servant to forward you the report of the state of the Kapunda Mine, by his successor, Capt. Pascoe, and also an extract of a letter received from Capt. Bagot forwarding the same.—R.: City, Feb. 1.

Old Omead Mines, Oct. 13.—The Kapunda Copper Ore Mines are situated in a porphyritic clay, which contains a large per centage of carbonate of lime—a character of country that will produce minerals in any part of the world; the surface dimensions of the ore are 180 acres of land, held free of royalty, and extend on the course of the lodes 550 fathoms. In these mines, slight metalliferous lodes have been discovered, varying in width from 10 in. to 3 ft., and are composed of copper ore, with quartz and gossan in small quantities; and several shafts have been sunk at depths from surface, varying from 3 to 30 fms. The two engine-shafts are sunk and secured, and the pitwork put down in the first order—one to the 20 and the other to the 30 fm. level; there is also a wheel-shaft well timbered to the 30 fm. level.

Stockyard shaft is down to the 20 fm. level, and is 3 fms. to west of the Stockyard lode; the level is 10 in. wide, composed of iron and copper ore. The main lode, in the bottom of the 15 fm. level, north of the main engine-shaft, for some 140 ft. depth, about 15 in. wide, composed of copper ore. There is a branch, 5 fms. west of the main lode, 6 in. wide, composed of copper ore, with grains of munda. The second lode, east of the main shaft, for a considerable length, is 2 ft. wide, composed of copper ore, with quartz and munda. The third lode, east of the main shaft, is about 3 ft. wide, composed of copper ore and quartz—ground soft throughout the mines. Mitchell's lode is about 7 fms. to the west of the main shaft, and is about 3 ft. wide, composed of quartz, gossan, and iron, and will come to the main lode about 3 fms. below the 30 fm. level. The main lode in the south end, in the 20 fm. level, is 3 ft. wide, composed of copper ore, producing 7 tons per fm., worth 20s. per ton. The lode in the rise, in the back of the north end, is about 3 ft. wide, composed of copper ore. I should say you have 100,000 lb. worth of ore standing in the backs of the 30 fm. level. Your engine-house is well built, the engine well put together, judiciously placed, and works as well as any engine I ever saw. I must say these mines were well selected, and there is much credit due to Capt. Richards for the able manner in which he arranged his plans, and carried out his operations.

The following is an extract from Captain C. H. Bagot's letter, enclosing the foregoing report, dated Adelaide, Oct. 15:—"The great lode was cut in the 30 fm. level early in Sept., and was found large and full of ore of excellent quality; we have since been driving on the lode to open it; in doing so we got much fine ore, and the soft black mixed with grey, which we calculate will dress to 30 per cent. From the extent of ground opened in the 15 fm. level (140 fms.), and the underlie being so great as to give a back of 19 fms. to 30, we have at least 2000 fms. of a back now nearly laid open. The men, who are always sanguine, speculate on 6 tons per fathom, but half of that will suffice, me—at all events, our prospects are most favourable; if ever any doubts existed as to the productiveness and stability of the mine, they are now removed."

GOLD IN SOUTH AUSTRALIA—BAROSSA MINING COMPANY.

Sir,—Under the heading of "A Little California in South Australia," an article appears in your last Journal, stating the South Australian Company had received dispatches from their colonial manager at Adelaide, from which you give an extract as follows:—"Capt. R— tells me that he has raised about 20 tons of ore from the sett in Lynedoch Valley, and that he has discovered (on assay) 34 ounces of gold in a ton of the ore raised." Any one reading this would naturally infer that the sett in question belonged to the South Australian Company, and I (as well as many other co-proprietors of it) am surprised that a company like the South Australian should cause such an article to be published without stating the fact, that Lynedoch Valley, though formerly their property, has for some time been leased to the Barossa Range Mining Company, and to whom the gold belongs; the agent referred to as Capt. R—, being our manager, Capt. Rodda. I would merely add, that some samples of the gold have arrived at the offices of the Barossa Company. City, Jan. 31. A SHAREHOLDER.

THE KESWICK COBALT MINES.

Sir,—My attention has been attracted by several notices in your Journal respecting the Keswick Cobalt Mines, representing them to rival in value the gold region of California, and to be able to pay off the national debt, &c. I beg to make a few remarks on them, to prevent parties from being misled by these exaggerated statements. In the first place, I do not believe that, at the present time, the annual consumption of the whole of Europe exceeds 150,000 lb. worth of oxide of cobalt—ultramarine having nearly superseded the smaller. In the second place, pure oxide of cobalt is now regularly sold at 22s. per lb., not 3s. per lb. as stated, and every prospect of it still falling in price, as the supply already exceeds the demand, which is not likely to be materially increased. Thirdly, the Keswick ores are poor; and, unless worked by thoroughly competent parties, cannot compete with the richer and more easily worked ores of Hungary, Saxony, Westphalia, and South America. A READER.

ACCIDENTS.

The Colliery Explosion near Barnsley.—During the proceedings at the inquest, on Saturday last, the coroner announced that he had received a letter from Sir George Grey, the Home Secretary, in answer to a communication from the magistrate at Barnsley, in which Sir G. Grey stated that, if it was their opinion that the presence of some person on the part of the Government to watch the proceedings was necessary, the Government would send one. The coroner remarked, that the question was brought by him before the jury at their last meeting, and they then expressed a wish that it should remain until to-day, when they would decide about it. In case they should wish such an application to be made, he had prepared a letter to forward. He understood Sir H. De la Beche and Mr. Smyth, who were sent down by the Government to inquire respecting the explosion at the Oakes Colliery, in 1847, inspected the pit, but did not make any report to the jury to aid them in the inquiry. After some conversation between the coroner and the jury, the conclusion was, that the coroner should apply to the Government to send down an inspector, when the proceedings were adjourned to Thursday next.

Mr. C. Locke, of Snapthorp, near Wakefield, colliery agent (brother to Mr. Locke, M.P. for Huddersfield), said, in evidence, that on 10th Jan.—"I, along with Mr. T. D. Jeffcock, of Sheffield, a colliery viewer and engineer, went into and examined the Darley Main Colliery. We went into it to ascertain the quantity of coal which had been got during the previous half-year. We examined the workings as we went along, and found them, in my judgment, perfectly safe; the ventilation very good indeed. I went down into the pit again on Thursday morning last, the morning after the explosion, about 3 o'clock, accompanied by George Porter Maddison, a colliery engineer, and a number of miners. (Mr. Locke stated the course they took through the pit.) I observed that several of the stoppings and doors had been blown down. In the explosion, 75 persons, whose bodies had been identified, were killed. I considered the pit was well ventilated. It was considered so safe that the men worked with naked candles. The colliers have complained the jury to aid them in the inquiry. After some conversation between the coroner and the jury, the conclusion was, that the coroner should apply to the Government to send down an inspector, when the proceedings were adjourned to Thursday next.

Mr. George Grey, Secretary of State for the Home Department, with reference to the lamentable catastrophe, and requesting that some steps might be taken on the part of Government to ascertain the cause of the accident, with the view to the adoption of some steps for preventing the recurrence of a similar calamity. On Wednesday morning last, Mr. Badger received the following reply from Mr. H. Waddington, dated Whitehall, Jan. 29:—"I am directed by Secretary Sir George Grey to acknowledge the receipt of your letter of the 29th inst., and to inform you, that he will be very anxious to see you in the investigation of the cause of the late deplorable accident in the Darley Main Colliery. He will be directed to put himself in communication with you upon his arrival in the country."

Whitriggs Iron Ore Pits, near Uteston.—A shocking accident occurred here on Wednesday last. While a number of men were at work at the pit, the scaffolding on which one of them stood suddenly gave way, in consequence of the fall of several tons of earth upon it, when the sufferer, Johnson Jeffreys, a Cornish miner, about 22 years of age, was precipitated into the water below, a descent of nearly 40 yards. Jeffreys at first clung to one of the ropes which had supported the scaffolding, but this, from the jerk, or some other cause, snapped asunder, and he was heard to plunge into the bed of water at the bottom, supposed to be, at that part, more than 10 fms. deep. From the immense quantities of earth which have since fallen down the pit—the shaft of which was in course of being newly framed—it is probable that some few weeks must elapse ere the body of the unfortunate young man can be recovered, though every effort will be made to extricate it as early as possible. Capt. Lane, who was standing at the time on an opposite scaffold, but some 10 fms. lower down, had an exceedingly narrow escape from destruction. The mass of earth in its descent struck the scaffold on which he stood, and fell so heavily on one of his arms as to dislocate it. He clung, however, so firmly to the woodwork at the sides of the shaft, that he was able to maintain his position till ropes were lowered from the surface of the ground above to rescue him from his dangerous post. The deceased bore an excellent character, was well conducted, and had the respect of both his workmates and employers.—*Cumberland Pacquet.*

West Bromwich.—As J. Woolley, bankman at Mr. Henbury's colliery, was pushing a "bowk" along the pit bank, when he arrived at the mouth of the shaft the bowk fell down the pit, and he was dragged after it.

MINING PROSPECTS FOR 1849.—We have before stated, that a new company is in course of formation, with the intention of extensively carrying out mining operations in the parish of St. Just in Penwith; and we have since been told, that the workings of Wheal Neptune, in the neighbourhood of Marazion, is about to be resumed by an influential and wealthy company of adventurers. It must be admitted that mining operations throughout the county of Cornwall have greatly decreased during the last year or two; and that, consequently, the condition of the mining population has been exceedingly precarious, compelling large numbers of families to leave the land of their nativity to seek in foreign climes what they could not obtain at home. The low state of the standard in respect to copper ores, and the fall in the price of tin, have no doubt been the chief causes of the depreciation in these important branches of the commerce of the county, and from which all other interests have experienced, in a greater or less degree, a deteriorating influence. Lastly, however, the price of tin has gradually, but steadily, advanced; and we look forward with some confidence to an improved standard. The mining world appears to have rallied—to have taken fresh courage, and to look forward with brighter anticipations to the future. The mineral riches of Cornwall have not yet been exhausted—all that is required is further development, is perseverance, and the means for successfully bringing to "grass" the vast amount of mineral riches that lie beneath the surface of the Cornish soil. Money is abundant in this country, notwithstanding the great depression that has so long been experienced in the commercial world generally. But the comparative position of Cornwall with other nations has restored an amount of confidence, that we trust will not be soon dissipated. Trade appears to be gradually assuming its wonted position, and we have no doubt that the year upon which we have just entered, will bring with it an increase of commercial prosperity.—*Penn. Jour.*

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Close.	
Bank Stock, 7 per Cent., 194 1/2	Belgian, 2 1/2 per Cent., 45
2 per Cent. Reduced Ann., 91 1/2	Dutch, 2 1/2 per Cent., 45 1/2
2 1/2 per Cent. Consols Ann., 91 1/2	Prussian, 5 per Cent., 104
2 1/2 per Cent. Consols Ann., 91 1/2	Spanish, 5 per Cent., 14 1/2
2 1/2 per Cent. Consols Ann., 91 1/2	Portuguese, 5 per Cent., 14 1/2
2 1/2 per Cent. Consols Ann., 91 1/2	Portuguese, 5 per Cent., 14 1/2
2 1/2 per Cent. Consols Ann., 91 1/2	Portuguese, 5 per Cent., 14 1/2
2 1/2 per Cent. Consols Ann., 91 1/2	Portuguese, 5 per Cent., 14 1/2
2 1/2 per Cent. Consols Ann., 91 1/2	Portuguese, 5 per Cent., 14 1/2

LATEST CURRENT PRICES OF METALS.	
Bar, bolt, & square, London, 46 10 0	South American, in hand, 47 10 0
Nails rods, 7 10 0	Fig, 2 10 0
Hoops, 8 0 0	Sheet, 10 15 0
Sheets (copper), 8 0 0	Red lead, 16 0 0
Bars, at Cardiff & Newport, 5 10 0	White ditto, 22 0 0
Refined metal, 4 4 0	Patent shot, 19 0 0
Antifract, 4 4 0	Spanish, in hand, 46 10 0
Fig. No. 1, Wales, cold-blast, 4 0 0	American ditto, 46 10 0
Do. do. hot-blast, 3 10 0	Block, 4 7 0
Do. No. 1, Clyde, hot-blast, 3 10 0	Bar, 4 8 0
Strling's Patent, 7 in Glasgow, 2 10 0	Banca, in bond, 4 10 0
Strling's Patent, 7 in Glasgow, 2 10 0	Strait, 4 10 0
Strling's Patent, 7 in Glasgow, 2 10 0	Peruvian (6 mo, 2 1/2 p. c. dis.), 4 10 0
Strling's Patent, 7 in Glasgow, 2 10 0	IK Coke, 1 7 6
Strling's Patent, 7 in Glasgow, 2 10 0	IK Charcoal, 1 1 6
Strling's Patent, 7 in Glasgow, 2 10 0	IK ditto, 1 1 6

FOREIGN IRON.	
Swedish, 13 10 0	Swedish, 13 10 0
Ditto, 13 10 0	Ditto, 13 10 0
Swedish, 13 10 0	Swedish, 13 10 0
Ditto, 13 10 0	Ditto, 13 10 0
Swedish, 13 10 0	Swedish, 13 10 0
Ditto, 13 10 0	Ditto, 13 10 0
Swedish, 13 10 0	Swedish, 13 10 0
Ditto, 13 10 0	Ditto, 13 10 0

FOREIGN IRON.	
Swedish, 13 10 0	Swedish, 13 10 0
Ditto, 13 10 0	Ditto, 13 10 0
Swedish, 13 10 0	Swedish, 13 10 0
Ditto, 13 10 0	Ditto, 13 10 0
Swedish, 13 10 0	Swedish, 13 10 0
Ditto, 13 10 0	Ditto, 13 10 0
Swedish, 13 10 0	Swedish, 13 10 0
Ditto, 13 10 0	Ditto, 13 10 0

REMARKS.—The demand for all descriptions of iron continues good, and prices firm. Welsh bar iron has advanced to 52. 10s. at the port. The makers are full of orders, and intend to accept large contracts. Since our last large rise has taken place in Scotch pig-iron, and a considerable business has been done at prices varying from 48s. to 50s. per ton, free on board at Glasgow. We quote the market for today, at 52s. for No. 1, cash, whilst nearly all the makers demand 52s. Large parcels of No. 1 Gartsherrie have been done at 52s. 6d. cash. English copper is very firm and in fair request, as also English lead, which is selling at higher rates. A further rise of 4s. per ton has taken place in English tin. Foreign tin has also advanced, and must now be quoted firm at 90s. The plates are looking up. A very extensive business has been done during the week, and higher prices paid. Spelter continues quiet. Sellers at 16s. 10s.

BOMBAY, JAN. 2.—COPPER: Sheathing, braziers, raised bottoms, and American, have been in good demand since the date of our last, and our quotations show some advance on the prices then ruling. Lead: A further advance is quoted for Swedish bar; no stocks exist, and this kind is much wanted. British bar is also in very good demand, and has experienced very considerable improvement in price during the past fortnight. Sheet-iron is in much request, and has risen greatly in price, stocks being very small. Nail-rod, both square and round, is in steady inquiry. Lead, both in plate and sheet, has advanced in value since the date of our last, and is in good request; while stocks are very small. Spelter is dull, and has declined still further.

THE IRON TRADE OF SCOTLAND.

[FROM OUR CORRESPONDENTS.]

The very explanatory statement respecting the iron trade of Scotland for 1848, prepared by Messrs. Ferguson and Rhind, and published in the *Mining Journal* of the 6th January, contains such full and accurate details of the trade for the past year, that they have left me very little to say on the subject. You will observe, by the statement annexed, that the annual production, since 1845, has increased 200,000 tons, and the stock on hand decreased no less than 130,000 tons; and this has occurred notwithstanding the average price of 1848 was only 31. 4s. 6d.—a very low price indeed, to yield any profit to the makers. It appears to me quite evident that the prices are not at all likely, after this date, ever again to get up so high as they have been—viz.:

1835	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849
31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d	31 4s 6d

The use of the hot-blast has enabled the ironmaster to produce a far greater quantity from each furnace, and at a cheaper cost, of late years, than they could do when the hot-blast was first introduced; and this is owing to using much larger furnaces, more powerful engines, and improved shapes of heating pipes. I am glad to say, the trade appears to be improving, and to be gradually recovering from the depression of last year. The price having advanced very gradually during the last month, and is now firm at 47s. 6d. to 50s. per ton. The following is the statement referred to above:—

Annual production.	Av. price per ton.	Stock on hand.
1845 400,000	31 4s 6d	230,000
1846 500,000	31 4s 6d	145,000
1847 500,000	31 4s 6d	90,000
1848 600,000	31 4s 6d	100,000

On account of the facilities which Scotch pig-iron offers as an article of speculation, and the interest with which, for this object, it is regarded, the following remarks on its present prospects and those of 1844-5 may not be without some interest. For two years previous to 1844, money had been very abundant and cheap. There had been a succession of favourable harvests, manufactures were in a flourishing condition, and the trade of the country had, during that period, been steadily improving. In the session of Parliament, 1843-4, bills for a large extent of mileage of railways had been passed, many lines were even in progress, and investments in this description of property were looked on with a favourable eye; founders were experiencing an improved demand for castings, and employment in nearly all branches of trade was good. The continent of Europe—prosperous and peaceful—was also preparing for the establishment of a railway world, the advantages of which were seen fast developing themselves in Great Britain.

Seeing the state of things at the end of 1844, we need not wonder that capitalists, as men of business, looked with favour on investments in an article which promised to be in such extensive request as Scotch pig-iron. In 1843-4, many iron-works were idle—several having proved ruinous to those engaged in them, while confidence in the credit of masters then working was considerably impaired—the whole make of pig-iron in Scotland, in the latter year, was only 300,000 tons, and the stock, on the 31st December of the same year, about 230,000 tons.

The price in the summer of 1845 was 30s. and 31s. No. 1, and 22s. 6d. for No. 2 and 3, while the wages of colliers and miners were the same as in 1844, 6s. 6d. per day. Here was a state of matters which gave to a speculator every reason to suppose that a handsome profit for his investment; and the continental buyer was the first who had foregone enough to take advantage of the opportunity. The price gradually advanced to 40s. to 42s.; and then was sown the germ of a speculation, which caused more litigation, ruin, and misery than any bubble ever set afloat, and which few who have seen will ever forget. These were the prospects of the trade in 1844, and the results of the speculation in pig-iron which followed in 1845-6; let us, therefore, turn the last page 1845, here we take up with the consideration of bills for new lines of railways, and the combined with the general depression of trade, the iron founders and machine makers are all but idle—not a few of them entirely so; nor do they see any prospect of a speedy improvement. No one will deny that this is the present actual state of matters—not do we think it likely that even the most sanguine among the high-priced pig-iron theorists will be courageous enough to attempt to draw a parallel between the prospects of the trade in the years 1844-5, and that of 1849, with any hope of success. Do the iron masters every probability the stock of Scotch pig-iron, or an advance on its present price of 48s. 6d. per ton? The following particulars may assist persons who have reviewed the course of the market since Christmas last as natural, to answer the question with more satisfaction than they have at present the means of doing.

We have already stated the production and stock in 1844, we will now give that of 1848. The production was 600,000 tons, at a cost of 40s. to 45s. per ton, and the stock Dec. 31, not less than 110,000 tons; the latter has accumulated at this date to at least 120,000 tons, and will increase in the same ratio for the next two months, if not longer. By the end of June there is every probability the stock of Scotch pig-iron will amount to at least 200,000 tons, in addition to which, be it remembered, a very large quantity is stored in England for sale. The following will be found, on the closest calculation, to be a very moderate view of approximate make, consumption, shipments, and stock, for 1849—viz.:

Stock 31st December, 1848	700,000
Make in 1849	630,000—760,000
Shipments—United States, America, 1849 to 1848 (which was double 1847, the latter being triple 1846)	90,000
All other foreign ports, my equal in 1848	120,000
Costwise	270,000
Local consumption for all purposes	170,000—250,000
Leaving as stock, 31st December, 1849	300,000

These statements will bear investigation, and are calculated to serve as a caution to those who expect to make a fortune in the article at the present price, and prevent shipwreck on the sand which engulfed so many votaries in the speculation in Scotch pig-iron in 1844-6.

GLASGOW, THURSDAY.—From the improvement in the aspect of affairs on the continent, our pig-iron market has assumed a better appearance. The demand has been better this week, and, in consequence, the price has further advanced. We quote the price at 48s. and 50s. each.

We extract the following from the *North British Mail* of Wednesday:—"There was little iron offering in our market to-day, though purchases could have been made on rather easier terms than yesterday. Some uneasiness manifested itself among holders, and we learn sales for open delivery were made at 49s. per ton—say three months." A correspondent engaged in the trade thus writes to us:—"At the beginning of 1849 we commenced with a stock of about 80,000 tons; but, owing to extensive shipments to the continent, and heavy demand for home consumption, chiefly for railway construction, and the blowing out of about 10 furnaces in the Ayrshire district for a number of months, the stock at the end of August had been reduced to 60,000 tons. At this period the effects of the revolutions on the continent, and the cessation of the demand for railways began to be felt, and, in consequence, the stock had accumulated from that time till the end of the year, at the rate of 10,000 to 12,000 tons a month, making the stock at the 31st of December, 1848, about 100,000 tons, or an increase of 20,000 tons on what it was at the 1st of January. That the stock was so well kept down last year was owing to moderate prices and the large quantity exported to America; and unless some unlooked-for political derangement takes place there, and speculators succeed in their present attempts to accumulate quite as rapidly as they did last year, for the demand on railways account is not yet quite over, and if the money market keeps easy, and other business continues to improve, so will the iron trade."

TREASURER.—At a meeting of adventurers, held at the mine, on Tuesday last, the following statement of accounts was allowed:—By balance from last account, 8211 2s. 3d.; ore sold in Oct. and Nov. (less dues), 23392 18s. 2d.; sundry credits, 1772 0s. 5d.; 33388 0s. 10d.—To costs and merchants' bills for Nov. and Dec., 25677 17s. 4d.; balance in hand, 7707 3s. 6d.

TREASURER.—At a meeting of adventurers, held at Treavean account-house, on Tuesday last, the accounts, as follows, were passed:—By balance at end of August, 2262 14s. 3d.; ore sold in September and November (less dues), 8111 18s. 2d.; 10382 12s. 5d.—To costs and merchants' bills for Sept., Oct., Nov., and Dec., 8022 2s. 11d.; balance now in hand, 2362 3s. 6d.

United Mines, Greenop.—Wm. Kinsman died from injuries received by falling down one of the ladders while proceeding from his work.

MINING NOTABILLIA.

[EXTRACTS FROM OUR CORRESPONDENTS.]

CEFR GWYN MINE.—About three months since, a company was formed for working this mine on the Cost-book Principle, under the management of Mr. Tredennick, and operations were commenced by driving adit levels on the course of the lode, both east and west, into the high ground, where backs, 100 fms. high, will be gained. A large stream of water runs through the middle of the set; and when the necessary machinery for dressing the lead be erected, it is estimated the produce will leave an immediate profit. The mine is divided into 1000 shares.

EAST ALKENNEY.—The tin is turning out better than was expected, and the tributers are making good wages; they will sample about a ton shortly, but there is a great deal more at surface. It is generally believed that she will make a good mine if the shaft was down, to cut the lode to a greater depth.

HOLMBUSH is a little improved, but I do not learn that it is any new discovery. Several of the tributers are doing well on both copper and lead.

KINGSBET AND BEDFORD.—I understand this set is looking promising, and I have some very flattering accounts from them. They are breaking large rocks of lead in the back of the adit, and they are expecting daily to cut something important, in driving a cross-cut from the adit, in ground strongly mineralised.

PRINCE MINES.—They have a good course of ore here in the bottom, dipping west; it is now very much improved.

LOCHWINOCK COPPER MINE (in the county of Renfrew, Scotland).—Conducted upon the Cost-book Principle; divided into 5000 shares. The following is the last report, dated 27th Jan.:—In consequence of the wet weather, Frog's shaft is suspended sinking for the present, and the men are placed to stop the lode standing to the east of Gripe's shaft; and hope to be able to dress 80 to 100 tons of ore this month of a produce of 7 per cent. The shaft sinking in Mr. Orr's lands is in good ore ground, and the adit level, driving west, is also in ore ground.

THE PENCRAG LEAD MINE, near Llanrwst, continues to look exceedingly well. In the 15 fm. level upwards of 50 fms. have been driven on the course of the vein, through good ore, and both the east and west ends are more productive now than ever; there are about 500 fms. of ore ground standing above this level, that will let on tribute at 32 10s. per ton, washing included. The men sinking the engine-shaft, below the 15, are going on very well—small strings of ore appear in the shaft coming from a vein, and a 25 fm. level will be reached by the end of April next, or sooner, at which time she will be in a position to return 50 tons of lead ore per month, which, at the present price of lead ore, will leave a profit of at least 3000l. per month. The set extends over about 200 acres of ground, and held on lease for 21 years, at a royalty of 1-10th, without any dead rent. There are seven distinct veins on the set discovered; but hitherto only the one above alluded to has been opened upon.

CALLINGTON MINES.—Capt. J. T. Phillips (Jan. 29) reports:—Kelly Bray engine-shaft is sunk about 7 fms. below the 20 fm. level; the lode here is 2 ft. wide, mostly quartz, intermixed with mudstone and spots of copper ore. In the 20 fm. level east the lode is 15 in. wide, producing copper ore; we have put the men from this place to sink a winze in the bottom of the level to the west of the last cross-course we have driven through. In the 70 fm. level east the lode is small and unproductive; there is a little more water here than we have seen for some months past, and hope shortly to see an improvement. In the 90 fm. level the lode is 24 feet wide, mostly peach, with mudstone and spots of copper ore. The north engine-shaft is sunk about 6 ft. below the 112 fm. level; in the cross-cut the ground is rather hard. In the 100 and 90 fm. level south the lode is small, producing silver-lead ore. At the south mine, in the 125 south the lode is producing silver-lead ore, and the back will work at a high tribute; in the rise, in the back of this level north, we are opening ground that will work at a moderate tribute. In the 112 south the lode is about 8 in. wide, good, saving work; in the north end the lode has not been taken down. In the 100 north we are opening good tribute ground. In the 90 south the lode is rather poor. In the 70 south we are opening tribute ground. In the 40 south the lode is producing silver-lead ore.

THE DARLEY MAIN COALIER EXPLOSION.—From inquiry we find that amongst those who lost their lives there were 44 men and boys unmarried, and 30 married men, leaving 80 widows, five of whom are pregnant, and 60 fatherless children. We are glad to hear that a subscription is being made for the widows and orphans of the unfortunate sufferers.

MINERS WANTED FOR SYDNEY.—In consequence of advices received from Sir F. Fitzroy, the Governor of New South Wales, that there are indications of the existence of mines in different parts of that colony, the opening of which is impeded for the want of miners, Lord Grey has authorised the Board of Emigration to offer a passage to some miners to Sydney. We hear, also, the Emigration Commissioners are at once about to resume emigration to the Cape of Good Hope.—*Colonial Gazette.*

THE COPPER TRADE OF GLAMORGANSHIRE.—The copper trade of Glamorganshire ranks as second in the metallic industry of the kingdom—that of iron alone exceeding it in importance. Although ores of copper exist within the county, and have at various periods been worked on a small scale, the trade is practically confined to the smelting of ores brought from Cornwall, Ireland, and the mines of Cuba, Chili, and Australia. The ores of iron, as a general rule, exist in close connection with the coal formation, as though Nature, foreseeing the essential necessity of that metal to man, had purposely placed beside it the fuel necessary to bring it to a condition of utility. In the instance of copper this rule is reversed, the ores of that metal lying so far apart from deposits of coal, as to require them to be brought from opposite quarters of the globe to be reduced to metal in this country. The smelting of these ores, fixed originally at Swansea, from its being the nearest port to Cornwall, and where the requisite fuel was abundant, is now virtually monopolised by this district, from the establishment of works on a scale of magnitude not readily admitting of competition; and, although a small portion of the ore imported into Liverpool is reduced at St. Helens in Lancashire, and there are also works in North Wales and the Derbyshire district, they are comparatively so unimportant, that the trade of the country in this article may be said to centre in the district of Swansea, extending from Port Talbot on the east, to Llanelly on the west.

Five of the partners in the Maesteg Iron Company received their certificates without opposition, at the Bristol Court of Bankruptcy last week. Mr. Buckland, the remaining partner, did not come up, in consequence of his last examination having been adjourned.

GIANTIC SCHEME.—The *Rhenish Democrat* states that a gigantic project—the construction of a canal between Kiel and the mouth of the Elbe, connecting the Baltic with the North Sea—is seriously contemplated. The reason assigned is the frustration of the monopoly of the passages of the Sound and the Two Belts, at present enjoyed by the Scandinavian powers. Without some such independent communication the creation of a German fleet would be vain.

In America, a patent has been taken for an improved mode of warming railway passenger trains, by a combination of flues, connected by elastic and flexible hose, with openings and registers in the bottom of the carriages.

BOMBARDMENT BY ELECTRO-MAGNETISM.—The *Press* of Vienna has the following:—"A Venice is to be bombarded by balloons, as the legions prevent the approach of artillery. Five balloons, each 25 ft. in diameter, are in construction at Treviso. In a favourable wind the balloons will be launched and directed as near to Venice as possible, and on their being brought in a vertical position over the town, the fire will be given by electro-magnetism. Each of the five bombs affixed to the balloons is in communication by means of a long isolated copper wire, with a large galvanic battery placed on the shore. The fuse is ignited by connecting the wire. The bomb falls perpendicularly, and explodes on reaching the ground. By this means 25 bombs a day may be thrown, supposing the wind to be favourable. An experiment made at Treviso on the 29th succeeded completely."

NAMUR AND LIEGE RAILWAY.—MOSS AND MANAGE BRANCH.—Several mines of coal (which has been known to exist on the banks of the river Ruhr, near Dusseldorf) have been for years partially worked by men of small capital, but comparatively little attention has been drawn to them. This is not likely to continue long. The "Anglo-Belgian Company of the Rhenish Mines," formed in 1846 for working the rich veins of copper, zinc, and silver-lead in the Grand Duchy of Nassau, have added a considerable tract of the above coal district to their possessions, and will shortly commence active operations. Thus, while the owners of the coal fields of the centre, owing to the facilities afforded by the Moss and Manage Railway, which runs through them, are daily extending their operations, to meet the demand of the northern provinces and France, the coal fields of the Ruhr will command the supply of central Germany. The railway undertaking is in good hands, and cannot fail of success. We congratulate our Birmingham friends on the support they have given it.—*Rail. Record.*

THAMES TUNNEL COMPANY

The number of passengers who passed through the Tunnel in the week ending Jan. 27, was—No. of passengers, 16,604.—Amount of money, £77 16s. 4d.

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars, per oz. 42 17 9 | New dollars, per oz. 40 4 10 | Portugal pieces, 0 0 0 | Silver in bars (standard), 0 4 11 1/2

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Gold bars to Belgium, 100 ounces; ditto coin to Belgium, 800; ditto to Havre, 490—Gold sent to Havre, 107—Silver coin to ditto, 471; ditto to Rotterdam, 3000; ditto to Belgium, 15,000—Silver bars to ditto, 30,000.

MINES.—The business transacted during the week has been unusually good, especially in dividend-paying mines; and an active inquiry continues to be maintained for the shares in the leading companies. The communications received from the locality of the mines is generally very satisfactory, many of them being at present in a highly promising position.

Devon Great Consols shares have been done—the reported improvement noticed last week having been confirmed. The lode in the 70 fm. level, in Wheal Josiah, which for some fms. had proved rather poor, is now worth full 1000l. per fm. At Wheal Fanny, the lode is also holding equally good.

Wheal Emma, whose shaft is sunk in maiden ground, is about 750 fms. east of Josiah, promises to prove as productive as the richest of the other mines. Stray Park is much improved in three or four levels, more particularly in the 180, which is now worth 400l. per fm. Condurow has also improved, especially in the bottom levels, and shares are in request.

Trevisey and Barrier have been done at an advance. South Wheal Bassett is represented to have considerably improved, and shares have been done, and are still in request, at advanced prices; this improvement we consider very important, inasmuch as a great discovery has been made in West Wheal Buller, where they have a course of ore worth 800l. per fm. on South Bassett lode. Shares in West Buller are also in request, but no sellers.

South Wheal Frances is reported to be looking remarkably well; from a recent inspection, we learn that upwards of 40,0000l. worth of ore is laid open. We understand that a large number of East Crowndale shares have changed hands; but the transaction being between private parties, we are not in a position to state particulars.

Shares in the following mines have been transacted during the week—viz.: Devon Great Consols, Trevisey and Barrier, Wheal Seta, South Wheal Bassett, West Seta, Wheal Margaret, West Caradon, Wheal Telawny, Condurow, Treleigh, Drake Walls, Mary Ann, Wheal Trebane, East Tamar, Stray Park, Camberme Consols, Tincroft, Tamar Consols, Heigton Down, &c.

At the Wheal Trebane meeting, on Thursday, a dividend of 2l. per share was declared, from the balance of 7362 19s. 5d. in favour of the company. After payment of the dividend, 225l. will be carried to the credit of the next account, which, added to 75 tons of rich silver-lead ore, sampled on the 24th, a credit of about 17000l. will be found in favour of the adventurers. The agent's report is highly favourable, as regards present prospects and future returns.

The meeting of the United Mexican Association was held on Wednesday, when a dividend of 7s. 6d. per share was made. The balance-sheet shows the position of accounts for 12 months, ending 31st December, 1848. The remittances from Mexico, in specie and bills, amount to 29,989l. 4s. 4d. Three dividends have been paid during the year, amounting to 47955l. with the unclaimed capital leaves a disposable balance of 24,094l. 14s. 4d.; 60000l. had been invested in quicksilver, which was waiting for shipment, and 90000l. worth had already been sent to Mexico. The report respecting the mines is considered highly favourable to future returns.

A meeting of Tregordan shareholders was held on the 25th Jan., when the accounts for Sept., Oct., and Nov., were audited, and a balance of 2954 18s. 2d. found against the mine—to discharge which, and for future workings, a call of 25s. per share was made. The captain's report is satisfactory; and although the lode in the 20 is not rich for lead, the deficiency is likely to be made up by the silver which she carries being found by assay to contain 150 ozs. to the ton of ore. Improvements are anticipated from the general appearance of the lode.

The Holyford Company held their meeting on Monday last. The statement of accounts shows a continuance of heavy expenses, occasioned by the payment of the engine and other machinery, and also in making necessary surface arrangements, as well as in the underground operations, which, although unprofitable, was absolutely necessary, in order to develop the lode and facilitate the future workings. This having been achieved, the company has now a splendid course of ore laid open in the present 10 fm. end north, and worth 1000l. per fathom. The other parts of the mine are looking highly promising, having several courses of ore, varying in size.

Great Rough Tor Consols held their two-monthly meeting on Monday. The balance against the mine appears to be 4382 1s. 4d., exclusive of December and January costs. A call of 2s. per share was made, payable on or before Feb. 22.

South Tamar Consols meeting was held on Thursday, when a call of 2s. 6d. per share was declared.

South Caradon meeting was held on Tuesday. No report of the meeting having been received, we are not in a position to furnish a statement of accounts. No dividend was declared; and we learn that larger sales of copper ore could have been made, but are reserved, in anticipation of an improved standard.

We are pleased to find that tin has advanced 4l. per ton this week, making an increase of about 14l. per ton during the last four months. This will prove of vast importance to mines returning it, which were previously in a very depressed position, arising from the want of a remunerating price.

With respect to copper, the prevailing opinion is, that its price will shortly be advanced.

Immense sales of lead, by the mines in the north of England, have been made within the past fortnight, purchased chiefly by the trade, from which circumstance we may fairly anticipate an advance by-and-by. It is a remarkable fact, that since the attention of the mining adventurers has been drawn to the development of British lead mines (which are commonly rich for silver), more than sufficient has been obtained for the purposes of the general manufacture of plate and plated articles, and that, for a few years past, the practice of melting foreign lead, to meet the demand of the manufacturing silver-smith, has been rendered unnecessary; thereby proving that if gold be abundant in California, silver is not scarce in our British mines, and that it only requires capital and enterprise to be engaged in more fully developing our mineral wealth; and we hope the time is not far distant when England will be exporting, in bars, silver raised at home.

At the annual general meeting of the Tincroft Mining Company, held on the 19th Jan., the directors submitted to the adventurers a proposal for the establishment of a tin smelting company; such proposition suggesting that the 5000 shares should be divided, *pro rata*, among the proprietors of Tincroft, Drake Walls, and Lewis Mines, which would enable the company to smelt the produce of their own mines upon more advantageous terms—the division of shares being 3000 for Tincroft, and 1000 each for Drake Walls and Lewis. We need scarcely to add, that the proposal was received by the Tincroft meeting with entire satisfaction. The proposal, we understand, leaves it entirely optional with the shareholders to decline, or accept, the shares in the new company. The estimated quantity of tin that can be raised monthly from the respective mines, is Tincroft 40 tons, Drake Walls 25 tons, and Lewis 20 tons—thus giving 85 tons to commence. The directors are making the preliminary arrangements for the erection of furnaces on an admirably selected site, adjoining the lead smelting-works, in the parish of Ben Ferris, on the banks of the Tamar, thus commanding the extensive tin districts of Dartmoor and its locality, and the east of Cornwall. The services of Mr. P. N. Johnson, F.R.S., F.G.S., the eminent assayer, having been secured, there is little doubt of successful results accruing to the shareholders.

We learn that the Bristol Smelting-Works, under the direction of Messrs. John Taylor and Son, Duke-street, Adelphi, have commenced operations, having purchased several parcels of lead ore during the past week. We are delighted to notice this instance of parties largely interested in mines becoming smelters of their own produce, and we trust that the example will be extensively followed. A large and certain profit

DUISBURG IRON-WORKS.—Company's Office No. 22

and results of the Cornish ticketing: for the same quarter,

taken from the details furnished under that head, in our Number of the 6th January.

Results of the sales by public ticketings, at Swansea, of copper ores, the produce of Cuba, in the quarter ending Dec. 31, 1848:—

Class of ore and date of sale.	Quantity of ore.	Average Produce.	Computed quantity of fine copper.	Average price of ore.	Amount of sales.	Value of ore to produce 1 ton of copper.
COBRE ORES.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
October 5	963	15.883	152 19	9 13 6	5319 1 6	—
November ... 2	1013	16.497	167 6	10 3 3	10295 4 0	—
December ... 7	329	15.865	52 5	10 0 11	9936 18 0	—
Totals & avgs. for the quarter.	4705	16.702	794 17	10 9 0	49786 7 0	63 11 3
CUBA ORES.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
October 5	823	14.623	76 9	8 17 7	4544 15 6	—
November ... 2	19	15.457	63 14	9 16 0	4429 1 0	—
December ... 7	460	14.674	67 10	9 9 0	4346 11 0	—
Totals & avgs. for the quarter.	1746	14.192	247 18	9 3 11	16054 11 0	64 15 3
SANTIAGO.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
October 19	353	13.131	45 1	8 7 2	2951 1 0	65 10 1
Totals & avgs. of all sorts from Cuba for quarter.	6853	15.462	1087 16	10 0 5	65739 3 0	63 3 8

A similar account, with respect to the ores of Chili:—

Class of ore and date of sale.	Quantity of ore.	Average Produce.	Computed quantity of fine copper.	Average price of ore.	Amount of sales.	Value of ore to produce 1 ton of copper.
CHILI ORES.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
October 5	107	54.871	58 14	35 0 5	3747 9 0	—
November ... 2	210	52.140	105 10	31 6 8	3279 12 0	—
December ... 7	329	39.296	131 5	25 4 11	8338 12 0	—
Totals & avgs. for the quarter.	1379	41.229	563 11	26 7 9	36387 12 6	64 0 0
COPIAPO.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
November ... 16	255	27.749	70 15	19 3 4	4687 6 6	—
December ... 7	231	27.429	63 7	19 3 9	4432 9 6	—
Totals & avgs. for the quarter.	765	27.434	210 5	19 9 7	14136 16 6	67 4 9
Totals & avgs. of all sorts from Chili for quarter.	2144	36.225	773 16	23 11 4	50524 9 0	64 17 6

A similar account, with respect to the ores of Australia:—

Class of ore and date of sale.	Quantity of ore.	Average Produce.	Computed quantity of fine copper.	Average price of ore.	Amount of sales.	Value of ore to produce 1 ton of copper.
BURRA B.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
October 183	27.659	50 12	19 11 11	3585 2 6	—	—
November ... 57	29.875	17 1	21 2 6	1294 3 6	—	—
December ... 143	30.390	43 3	21 3 9	3030 5 6	—	—
Totals & avgs. for the quarter.	1119	29.464	329 14	20 10 0	22940 16 0	69 11 8
KAPUNDA.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
November ... 125	23.640	28 6	15 12 0	1950 0 0	—	—
December ... 62	24.875	18 8	16 14 0	1035 0 0	—	—
Totals & avgs. for the quarter.	187	23.960	43 14	15 19 4	2985 0 0	68 6 4
PRINCESS R.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
October 60	31.625	19 0	21 10 0	1290 0 0	—	—
November ... 62	27.113	16 16	18 12 8	1157 8 0	—	—
Totals & avgs. for the quarter.	122	29.344	35 16	20 1 8	2447 8 0	68 7 8
AUSTRALIA.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
October 33	25.000	8 5	16 13 0	549 9 0	—	—
Totals & avgs. of all sorts for the quarter.	1461	28.710	417 9	19 15 11	28923 1 0	69 5 8

Recapitulation of the three foregoing results, and a comparative statement of the sales, by public ticketings, in Cornwall, for the same period:—

Countries from which the ore was imported.	Quantity of ore.	Average Produce.	Computed quantity of fine copper.	Average price of ore.	Amount of sales.	Value of ore to produce 1 ton of copper.
CUBA.	<i>Sticks.</i>	<i>Per Cent.</i>	<i>Tons wt.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
October 6838	15.962	1087 16	10 0 5	68,732 3 0	—	63 3 8
November ... 2144	36.325	779 16	23 11 4	50,524 9 0	—	64 17 6
December ... 1461	28.710	417 9	19 15 11	28,923 1 0	—	69 5 8
Totals & avgs. for the quarter.	10463	21.830	2284 1	14 3 3	148,179 13 0	64 17 6
Cornish ticketings for the quarter—see Mining Journal, Jan. 6, 1849.	35972	8.564	3080 8	4 19 4	176,833 0 6	57 8 3
Excess of English ore above foreign.	23509	—	796 7	—	38,553 7 6	—
Excess of foreign ore above English.	—	13.966	—	9 4 11	—	7 9 3

* The quantities, and other details in this line, it will be observed, apply exclusively to the ore sold in Cornwall. In our last week's Number we gave a statement of the Irish and Welsh ore sold at Swansea in the quarter, amounting to 3226 tons of ore, computed to yield 305 tons 12 cwt. of copper, which sold for 19,684. 2s. 6d. These amounts must be added to those applicable to the Cornish ticketings, to give the entire quantities and value of British ore sold in the quarter.

These statements throw a light on some points not undeserving of notice. Looking at the imports from the Island of Cuba, the produce remains nearly the same as for the last five or six years; but the price of the ore is about 20 per cent. below the average value of that term. The average produce of the Chilean ores has increased nearly 20 per cent., as compared with the imports of the few past years; notwithstanding which, the price is a mere trifle over the average of that period; and the increase of produce may, under those circumstances, be regarded as equivalent, or nearly so, to a diminution in price to a corresponding extent. With regard to Australian ores, our means of comparison do not extend so far back as in the other cases; the quantity of ores from that country, which paid duty, having been 13 tons in 1843, 167 tons in 1844, and 969 tons in 1845; whilst the last quarter alone shows 1461 tons, or at the rate of nearly 6000 tons a year, which is by no means the limit of probable, and even early, supplies from thence. In produce, the Australian ores have increased above 35 per cent., as compared with earlier importations; whilst the price for ores of so much higher produce is only about 10 per cent. over former rates; leaving them,

also, like the Cuba and Chili ores, minus in value to a similar extent—say, above 20 per cent.

Another point, more deserving of remark than susceptible of clear and satisfactory explanation, is the discrepancy observable in the right hand column of the several statements, which shows the value of the ore computed to produce a ton of copper. This value is established by dividing the money amount of the ore sold by the number of tons of copper which it is estimated to yield, thus giving the real value of the ore necessary to yield a ton of copper. This appears to us, as we have said before, the actual standard of value.

How comes it, then, that the value varies so much? By the last statement above, it will be seen, that the general average value of all the ores estimated to afford a ton of copper for the entire quarter, was 64. 17s. 6d., which also happens to correspond exactly with the calculations for Chili. But the ores of Cuba yielded only 63. 3s. 8d., or 12. 13s. 10d. below; whilst those of Australia gave 69. 5s. 8d., or 4. 8s. 2d. above the general average; the ores of the different mines of the same country showing, also, variations of 2. 1s. to 3. 1s. in price. The concluding lines of the last table, or recapitulation, also prove, what we shortly adverted to, in our article upon this subject last week; that the average sale value of Cornwall and Devon ores, to produce a ton of copper, for the last quarter, yielded less than the general average of the foreign, by 7. 9s. 3d. per ton of metal; and, as compared with the Australian ores separately, by 11. 17s. 5d. per ton.

These apparent inconsistencies we must leave to others to reconcile; but we think we have rendered a service to all interested—although with much labour, from the great extent of calculation necessary to establish the various points correctly—in affording them, through the three articles, applicable to the question, which we now conclude, the means of investigating the subject in all its bearings.

Having, in our last Journal, given a complete summary of all the information relative to the discoveries of gold, and other metals, in California, up to the time of publication, it will now be interesting to endeavour to trace the probable effect which any extraordinary influx of gold to this country may have on our industry and commerce. When the prospect of large and continually increasing supplies of gold from the Ural Mountains and Siberia were first made known to the public, a perfect panic took possession of many persons who, from education, commercial and financial experience, ought to have been the last to have entertained the slightest fear on the subject, much less the idea, that any unusual import of gold would disarrange the respective values between gold and silver as standards of commercial value, and reverse all our financial regulations. Such idle fears we have experienced were premature and groundless; the produce of gold from the Russian territories has gone on increasing, during the last 10 years, from 6000 lbs. weight to nearly 50,000 lbs. per annum—the quantity in the past year representing nearly 2,000,000. sterling from Russia alone; and, as things are managed in that state, it is very difficult to get at statistical facts, it is highly probable the true quantity is nearer three millions than two. Yet, notwithstanding this vast increase, it has not appeared, at any time, to have had effect on the value of bullion, the price having continued averaging a few pence more or less than 3. 17s. 9d. per oz., and the fluctuations certainly more affected by the state of the funds than anything that we have yet seen connected with the quantity which any one country has produced. We fully expect the same results from the discoveries in California; let them be as prolific as the most extravagant accounts published have described them to be, and that the rapidly increasing population in all parts of the world, the extension of commerce which the colonisation of California alone will create, and numerous other causes, all tending onwards to the same effect, will open sufficient channels for the free current of all the precious metals which that country can supply, allowing that Russia fully maintains her average annual produce. Many of our readers will, probably, be much surprised, when we inform them that there has been coined in the Government Mint in London, in the last 32 years, very nearly 100,000,000. sterling, in sovereigns and half-sovereigns, on an average more than 3,000,000. a year; and what by the friction in the continuous circulation, and the operations of the coin dealers, called "sweating," a large amount is necessary to fill the gap thus caused, besides providing for the wants of the public in increased circulation. Governor Mason, in one of his despatches, has stated that he calculates the produce of California at nearly 5,000,000. sterling per annum. Now, without stopping to inquire from whence he obtains data to warrant him in such an estimate, we will take it at that amount, which, when put in circulation throughout Europe and America, will not add 1s. per head per annum to the circulating medium—a sum which truly cannot be looked upon with such dismay as some of our contemporaries appear to entertain for it. Looking at the question in this fair and unembarrassed light, and when to the purposes for the employment of gold mentioned above, we add the increasing demand for articles of jewellery, watch cases, chains, plate, &c., there cannot be a doubt but that there are plenty of channels for the safe and healthy outflow of all that California and Russia can produce.

It would probably be neither generous nor just to lay our small rod on the back of the *Cornwall Gazette*, considering that it is but a short week since it received the heavy cudgelling of the *West Briton*. The accusation, and the defence of Mr. WILLIAMS, are both before us, and we deeply regret that, as to the first of these, the *Gazette* should have discovered so clean a mare's nest. The overture and heralding of the charges contemplated the production of at least "three black crows;" but all that, by the most diligent angling, in nothing like the purest of streams could be landed, is something not quite so black as a crow. We are not ourselves disappointed, but we could name a score or two of Conservatives who are, that so great a cry should have been followed by so little wool. Mr. WILLIAMS, it appears now, is not at all a Chartist—not for the five points, in any sense, nor so much as for the fifth part of any one of them, if violence is to be the means, or vice the result of procuring them. He does not object to—nay, he probably thinks an enlargement of the elective franchise, and the shortening of the duration of Parliaments, would be highly beneficial; but we take it to be the consequence of his own principles, that he would willingly extend the Septennial Act, and restrict the elective right, if we could by that means more securely and more promptly arrive at good Government. It is that result he looks for and aspires after, by whatever means it may be honourably won. If any of the ultra-Radical, the red wards of the City, had sent in a Chartist Member or two to the Common Council, how foully aspersed, how criminally libelled would the Lord Mayor and entire corporation think themselves, by the imputation that they had formed parts of, and presided over, a Chartist meeting; yet this is just the aspersion and the libel uttered against Mr. WILLIAMS. For our own parts, we think the political opinions of the new Member good enough for any constituency not transcendental in its Conservatism, and so also think the majority of the electors of Truro. Unfortunately, from this opinion the *Cornwall Gazette* is a dissembler; but when it is considered that, for a positive certainty, the representative duties of the borough will be honestly discharged—that its local interests will be vigilantly promoted, and that not for Truro only, but for the entire kingdom, such a course of government will be encouraged as fits and adjusts the burthens of the State to the backs of those who are best able to bear them. When these objects shall, one after another, be in course of realisation, then the most incredulous

and the most opposing will be thankful that a miner, and a man of business, has been chosen to sit for Truro, rather than that abstraction called the ornament of the western circuit.

We regret exceedingly that the *Aberdeen Herald* has so disgraced itself, and the press in general, by the effusion of abuse which appeared on the 27th ult. Our contemporary should be a little more cautious in using such words as "dishonest," &c., and a little more careful in his allusions to individuals. We spoke rather strongly of the conduct of its friends, no doubt, but we were convinced that "there is no use chopping blocks with a razor;" and we purposely avoided mentioning any names in connection with the matter. Indeed, with regard to the directors of the "North British Australasian Company," we distinctly stated in our Journal of the 28th of October last, that they "may be very respectable, but they are evidently not qualified for their position in this company." We attacked not persons, but their system of management. In the railway affair, we scarcely knew how to characterise the conduct of those concerned in the "celebrated claim," but treated it as a most extraordinary transaction throughout. We by no means say the *Herald's* superiority in its peculiar style of abusing those whom it cannot find fair and gentlemanly language to answer but, from our incapacity to pay him with his own coin, we must adopt plain language. We are not at all surprised at the fury of our contemporary at the "just, charitable, and gentlemanly sentiments of Mr. SEICER," but he is totally deceived if he imagines that that gentleman stands alone in his opinions, or in the course he has taken: he is the able exponent of the views of the whole of the English, and a large portion of the Scotch, shareholders. Our contemporary persists in attributing our remarks to the influence of Mr. SEICER, as if he had any "private interest" to serve by circulating the arguments which he had already successfully used. After this, we need scarcely say, that we have not seen, nor had any communication with, that gentleman since his return from Aberdeen, but we merely re-echoed the unanimous feeling of all who had taken an interest in the matter, and all with whom we had conversed. But we can go further;—in our next Number after the second general meeting of the shareholders of the Aberdeen Railway, we simply gave the "result," without entering into any comments upon it, while our subsequent remarks were founded upon the report of the meeting which appeared in the *Herald* itself.—And here, by the way, we may observe, our contemporary quotes a part only of our article, which appeared on the 6th of January ult., and we shall, therefore, repeat it here:—

The "trick" attempted to be played on the proprietors by the offer of the first instalment of the new stock, was plainly for the object of gaining the votes for the minority at the then ensuing meeting, and thus forcing themselves into the board of the company against the all but unanimous wishes of the holders of old stock—the proper parties, surely, to judge of their qualifications. This was clearly their intention, from the extraordinary and sudden manner in which the money was offered, and the open identification of the apparent agents of the southern companies with that party. For what other purpose could they be so anxious to have their shares delivered before the agreement had been definitively settled, signed, and sealed, although application had been repeatedly made to them for the draft, and it had not yet been delivered? Surely, too, if the southern companies suited their own time in arranging those matters, and in paying the money, the other party had as much right to consult their own convenience, and particularly the interests of the shareholders were concerned. If the agreement proposed is not carried out, the southern companies and their friends are entirely to blame for it, for the majority of the Aberdeen directors were perfectly willing to overlook any irregularity in the matter by the former, and to carry it out faithfully; and, therefore, if it is broken off, it is a voluntary act on the part of these gentlemen, who can have no rational excuse whatever for not desiring the success of the railway now as much as before.

But as to the claim of the "clique" for compensation for loss, on a bold and reckless speculation in the company's shares into which they had entered, and from which if a party had been made they were to have pocketed the loss—it is the most unfeeling impudence we ever heard of! Indeed, it appears that one of the party had actually retired with a profit, while the less fortunate number of these worthies bring the matter before their own board, in order that they may be relieved from the effects of their own folly! How could such an idea ever be entertained? We grieve to see the manner in which they defend themselves. At the first meeting they withdrew the claim; but, at the adjourned meeting, it is denied that they ever made one, but that they simply brought upon a certain man the interests of the shareholders were concerned. If the agreement taken upon it! What equivocation! If they did not consider themselves entitled to it, why was it "brought forward?" And if the shareholders are to guarantee the directors against loss in their speculations, while the latter are to pocket the gains, we do not wonder at the anxiety to retain so desirable a position. But it was attempted to be explained further, that the compensation was only to have been asked from ultimate loss, if after the railway was finished and in operation, the shares still remained at a less price than had been paid for them. We find it difficult to account for this sudden want of confidence in the undertaking. Did these gentlemen really consider that the Aberdeen Railway would be so badly paying a concern, that its stock would never again rise to par? We thought they entertained very contrary opinions, and shall be sorry if there is any just cause for producing a change.

It is impossible to arrive at any other conclusion as to the reason why "the statement was brought forward," but that it was intended by the "clique," as a strong expression of their opinion, that they were entitled to be immediately relieved from the heavy loss upon a certain man the interests of the shareholders were concerned. If the agreement taken upon it! What equivocation! If they did not consider themselves entitled to it, why was it "brought forward?" And if the shareholders are to guarantee the directors against loss in their speculations, while the latter are to pocket the gains, we do not wonder at the anxiety to retain so desirable a position. But it was attempted to be explained further, that the compensation was only to have been asked from ultimate loss, if after the railway was finished and in operation, the shares still remained at a less price than had been paid for them. We find it difficult to account for this sudden want of confidence in the undertaking. Did these gentlemen really consider that the Aberdeen Railway would be so badly paying a concern, that its stock would never again rise to par? We thought they entertained very contrary opinions, and shall be sorry if there is any just cause for producing a change.

We repeat, that we abstained from these comments on the proceedings at the meeting, until we had read the full report in the *Aberdeen Herald*, and we hope we shall be excused for thus acknowledging that we took our information from its columns.

The answer given to our statement of the rise in the shares, consequent on the taking up of the preference stock, is very amusing, although it does savour something of the ridiculous. We are referred by our contemporary to what it said "immediately after Mr. SEICER achieved his inglorious triumph" (we shall show presently that it has been a glorious piece of luck for certain parties). It reminds us of its attempt at ingenuity in covering the defeat of its friends—thus:

Messrs. Fife and Davidson have placed themselves in this awkward dilemma; either they anticipated a breach of the agreement with the Edinburgh and Northern Company, and made some provision for getting money elsewhere to complete the railway, or they did not. If they did, they have been playing false to the southern companies, and all their professions of desire to carry out the agreement have been utterly hollow; if they did not, they have acted a most unprincipled part, placing the interests of the shareholders and of the public in the utmost jeopardy—merely to gratify a feeling of hostility to a number of their co-directors.

Salvos are sometimes very convenient, but here our contemporary has outwitted itself. The first alternative is satisfactorily answered by reminding it of the fact, that the new directors immediately wrote to the southern companies, requesting them to furnish the documents necessary to the completion of the mutual agreement previously sanctioned, which the latter declined to do, and declared the contract on their part at an end—evidently proving that they were actuated by "a feeling of hostility" somewhat unaccountable, for no reasonable or disinterested person can discover how the proposed arrangement could have been affected by the change in the Aberdeen board. If, however, the southern companies had fulfilled their pledge, the new directors could not—and we are persuaded would not—have hesitated for a moment in using every exertion to make the best of a bad bargain, and to carry into effect the plan for completing the line previously agreed to: as it is, the breaking off the agreement can only be regarded as a lucky event to the shareholders, arising out of fortuitous circumstances. On this point we cannot do better than refer the *Herald* to the proceedings of the late London meeting.

With regard to the second alternative, our contemporary has been still more at fault in his prognostications. Have Messrs. FIFE and DAVIDSON proved that they "acted a most reckless and unprincipled part," by "placing the interests of the shareholders and of the public in the utmost jeopardy?" We think facts prove the contrary. Immediately it was known that they had succeeded in their object at the late meeting in Aberdeen, the shares fetched a higher price in the market; this rise took place, too, before it could be conjectured what course they would adopt to raise the necessary funds. We ask, also, did the shares fall on the breaking off the agreement with the Southern Companies, the only resource the ex-directory had? No. They have since risen considerably, and have been as high as 23. 1/2, or a rise of 56 per cent. upon the price they stood at (13. 1/2) about the time of the meeting alluded to. Is there any thing here to show that "the interests of the shareholders and of the public" were placed "in the utmost jeopardy?" But our contemporary, like "a drowning man catching at a straw," attributes all this to a participation "in the general improvement which is taking place in the railway market!" What! Property which, he thinks, is placed "in the greatest jeopardy," affected equally with established and dividend-paying concerns! This would be contrary to common sense; and what we have stated evidently shows that the public do not "participate" in the ideas of our northern contemporary as to the results of the new management—and, indeed, he himself cannot see the inconsistency of his remarks. We may here add, that it is now well known that the preference stock has been applied for to an amount far beyond what is required. Again, we are told that the stock rose, under the auspices of the ex-directors, from 19. 1/2 to 23. 1/2, at the time of the "incomplete and most unsatisfactory arrangement with the London and North-Western;" and this is boasted of, and put in comparison with, the

present case! There is first a difference of £1. between the rise which has lately taken place, and that which occurred on the occasion referred to by our contemporary, and that difference in favour of the former; but, in the next place, its friends have not the credit of the rise it boasts of after all; but it was owing to the "arrangement with the London and North Western," whereas the "new board of directors" have personally so gained the confidence of the public, as not only to increase the value of the old shares, but to receive applications for a much greater amount of new stock than they have to dispose of! But, notwithstanding all this ill feeling, and all this apparent dissatisfaction on the part of our contemporary, its friends have good reason to thank their stars that Mr. SPICER's exertions have given them an opportunity of disposing of their 2654 speculation shares, on more advantageous terms than they could otherwise have anticipated.

It is currently reported, that a certain ex-director of the company came to town a short time ago, and, on Saturday last, sold 100 shares at 22½, and endeavoured to get the same price for 20 more, but failed in doing so; and ultimately took 21½ for this lot. If the whole of the speculation shares are brought into the market, it will naturally keep the price down; and, were it not for the operations of the needy shareholders, we are confident that the shares would stand at a much higher figure. We have endeavoured to reply calmly and moderately to our contemporary, and have been careful to avoid following it into that abusive and personal style of language, so objectionable among private individuals, but infinitely more censurable in a public journalist. We have devoted space enough to the subject this week; but, in our next Number, we shall recur to the other topic upon which it has attempted a justification of its friends.

We last week adverted to the melancholy accident attendant on the colliery explosion near Barnsley, and find that Government have communicated, through Sir GEORGE GAY, the Home Secretary, their readiness to send some person on the part of the Government to watch the proceedings, if such should be deemed desirable or necessary. We should hardly have thought that the Government would have deemed it necessary to have consulted the local authorities, when we consider it to be a duty imposed on them, on the part of the public, to see that life is protected; and that, in the absence of those laws and regulations which we have ever contended should be imposed as regards our mining and colliery operations, as protective of the life of the collier and miner, and a provision made for the widows and orphans. From a statement made by the coroner, it would appear that the question had been previously entertained by the jury; but that a difference of opinion existed as to the advantage likely to arise from the delay and Government interference, it being quite clear that on a former occasion, when the explosion at the Oaks Colliery took place in 1847, Sir HENRY DE LEBECHE and Mr. SMYTH, who were sent down by the Government to inquire into the facts, did not make any report to the jury to aid them in their inquiry. In the end, however, it was agreed that the application of Government should be assented to, and the inquest was accordingly adjourned. We reserve any observations until a verdict shall have been given, and that we have an opportunity of recording the valuable services rendered by the Government inspector, who, be it said, should rather be a practical coal viewer than a geologist, however highly distinguished.

We promised to return to the subject of the rival inventions, relating to the ELECTRIC LIGHT, for the purpose of an impartial examination of their merits. In giving this pledge, we were actuated by a desire to be guided by candour and justice, and to place the subject before the public in such a point of view, that those who, from the peculiarity of their pursuits, are obliged to follow the opinions of the press, might draw unbiased and satisfactory conclusions from the facts, divested of technicality and abstruseness, which render them incomprehensible to all but the transcendentalist of science. The task we have so imposed on ourselves is no light one; the topics for consideration extend over a vast region of learned lore; and, in reality, we tread on sacred ground, over which the watchful genius of chemistry presides. It will not be, therefore, matter of wonder that we should exhibit a reluctance to enter into a premature discussion, based upon generalities, or to award our confidence to the first who seeks our suffrage. To condemn, as absurd and impossible, the propositions announced to us by the inventors, would be the height of folly and imbecility; but it is only reasonable that we should pause for satisfactory evidence, before we are led away by schemes to supersede systems long and expensively established. What evidence, then, it may be asked, will satisfy? We answer—and trust our demands will be sanctioned by a universal concurrence in our caution—we require a series of experiments, conducted by chemists, and other scientific men, whose characters place them above suspicion of being improperly influenced; we require that those experiments shall be fairly open for the investigation of all parties, as well for manufacturers as for consumers of artificial light; and we require that every one interested and qualified may be enabled to test the accuracy of the results.

If from this ordeal the project pass triumphant, we shall be justified in announcing to the world the proximate adoption of the light. It will be then time for those monopolies, the gas proprietaries, to follow the example of the CHAPLINS and the PICKFORDS, who closed in good time their accounts on their now antiquated stages, and opened new ones to railway trucks and carriages. Indeed, we recommend these companies, many members of which have already raised a great outcry at the impending danger, to think well on it in time, and come forward promptly and honestly to aid in such investigations—so as to avoid the fate of some bloated porpoise, laid high and dry, the victim of a stupid neglect to float with the receding tide. If the disturbers of their peace and privileges be proved impostors, all the better for gas shares. The proprietors may complacently anticipate a prolongation of their immunities, however diminished in value, perhaps, by competition; and that, in spite of certain provocations the consumers may have—now to exclaim against extortion—now to raise a sighful imprecation against some suffocating escape—and anon to stand aghast in horror at vast conflagrations and awful explosions. Suppose the reverse of that hypothesis—the unanimous approbation of the scientific world accorded to the appliances for the introduction of the light. Who are most concerned in adopting it? Those whose gains will be annihilated, whose property will be sacrificed, unless some means be found to substitute apparatus for the manufacture and supply of electricity, in lieu of those now disposed for the production and circulation of gas. Who has dared to interfere on railways with the great carriers, whose experience and wealth have given them the monopoly of the roads? Few, indeed, with much success. Who could compete with gas companies, with their charters, or Acts of Parliament, and their well-organised machinery for action, or supply the electric light cheaper than their's? Is it not, then, clearly the duty and interest of gas companies to step forward, opportunely bid for this new contract, and prove their right to a preference. In the commercial world there is no trader of capacity, who does not search for those commodities which best please and suit his customers. Here is an article of ordinary commercial consumption—a gas light, which we may use, or dispense with, if we be so minded, to return to pale candle-light. Shall we be coerced in this trade alone, to swallow poison and slumber on destruction, in tender consideration for the shares of some thousands of speculators? Forbid it, reason! We shall, for our part, wage a war of *laureance* against the *soi-disant* vested rights of gas, in case we find a better flame, whose light will yield a purer ray, and whose expense is within fair limits of economy.

Having said so much to those most deeply interested, to assist at the inquiry, let us plainly put the issue, which appears to us to be—whether the light is capable of a limited or universal application; if limited, to what purposes? and if it be available for every want of public and private illumination, which is now supplied by other artificial means, we must ascertain under what conditions, and with what advantages to the consumers, it may be introduced. We frankly admit that, on reflection, we find ourselves in nowise competent or authorised to give answers to these questions hastily. Nevertheless, there are certain circumstances under which a hasty answer is better than none. For example: should, by fatality, the projectors of any innovation seek to tamper with public credulity, trusting to their designs being imperfectly appreciated; if again, for example, a company should start up, as for an El Dorado, and without competent directors, or responsible support, publish their plans, proceed to an allotment, and, further, to an issue of scrip; it would be much better to pronounce the fate of such schemes, on data before us, than wait for the next Californian mail.

So it is in this case. Let not Mr. STANTE and M. LE MOLT (we trust we do them justice in saying we believe they will not) push forward their pretensions with undue precipitancy, or without proper preliminary in-

formation for the public. To await the time when all parties will be in a condition to reflect dispassionately, and with full materials, on the exposure of each applicant, will then be by no means irksome. We would, indeed, wish that convenient depôts had been appointed by the patentees for the sale, or inspection, of their batteries. It is impossible for the patentees to preserve them, if so disposed, from the tests of the scientific; for if chemists and electricians be denied legitimate access, there can be little doubt that, at all hazards, they will obtain the means of indulging their curiosity. Far better for the inventors would it be to allow fair samples of their productions to the manipulators, than to risk a condemnatory opinion expressed by one who may be obliged to collect his own materials for forming a judgment. However, that is a point altogether discretionary, and in which we have no direct concern.

Devoted as this Journal is to scientific subjects, we conceive we do not obtrusively assume an especial duty in attending to the progress of those patents. The stake is valuable, and we must keep it prominently in view, that no jockeying in the race will be permitted. From time to time, we shall lay before our readers such observations as will serve that purpose, and convey to them every requisite information.

The decision of the LORD CHANCELLOR, given in the case of the WHEAL LOVELL MINING COMPANY, reversing the order or decree of VICE-CHANCELLOR KNIGHT BRUCE, is too important to be allowed to pass by unnoticed. The proceedings are reported in another column, from which it will be seen that the LORD CHANCELLOR read the clause relied upon, whereby the company was declared bankrupt, in a widely different sense to the opinion expressed by the VICE-CHANCELLOR, and the construction placed upon the clause by the petitioner. That the case may be fairly understood by our readers, it will be well briefly to review the proceedings from their commencement, the several reports of which have appeared in the MINING JOURNAL in more lengthened detail. Mr. WYLD, as an adventurer, or proprietor of five shares in the Wheal Lovell Mine, was proceeded against as a co-adventurer, with others, for a debt due to Messrs. FOX, and others, from the body of adventurers of the mine, he being liable for the entirety of any claims, or debts, notwithstanding he might be only the holder of one share, and although he should have paid up all calls or charges made, and even have advanced moneys beyond his fair proportion for the working of the mine. We do not pretend to say such was the case in the present instance, but we assume the point, so as to direct the attention of adventurers generally to the law as it stands, that they may see the position in which "One and All" are placed, and hence the necessity of seeing that the Cost-book System is strictly observed, that accounts being made up every two months, and no debts or liabilities being allowed to be incurred. The case of *Wheal Lovell v. Fox* must have been left sight of by the LORD CHANCELLOR, we think, on one or two points, as also by counsel, or the decision of the Court of Exchequer would have been at variance with that at which the learned judge, as well as the LORD CHANCELLOR arrived; but, in truth, neither the one or the other understand what is the Cost-book System—a question oft asked, but, we believe, never solved, every one having his own opinion, which, strange to say, is found, on investigation, to be in a ratio, and in accordance with the interests of the party so advocating it.

In the present instance, it appears that Mr. WYLD became an adventurer in the mine under notice, to the extent of five shares, or 500th parts, and, consequently, entitled to all advantages arising from the working thereof, or liable to the payment of costs, to the extent of one-hundredth part, being his proportionate interest in the mine; at least so we should consider, and, as we believe, was the intent and meaning, as it was the construction held by the party. Having signed the cost-book for five shares, or 500th parts, it appears subsequently that the whole number of the shares were not subscribed for, and that, in fact, 360, or thereabouts, constituted the company—hence a liability was thrown upon the several adventurers who had subscribed, of nearly 40 per cent., beyond that contemplated by them. Besides this defalcation, of which the party, as we contend, very properly complained, we find that certain acts were done, of which complaint was made, whereby the interests of the shareholders generally were sacrificed to the advantage of one individual. This, however, as forming no part of the case coming before the Court, we pass by. The plaintiffs in the suit having a claim against the mine for the sum of £11, 8s. 2d., for goods supplied between January, 1846, and October, 1847, allow the mine to throw upon the plaintiff, and, in the last month of that year, or two years prior to the first item in the account, think fit to proceed against the defendant for the recovery of the debt due them. No objection is raised as to the goods being furnished, or the account being unpaid; but the defendant very properly complains, in the first instance, that the debt should not have been liquidated by the pursuer long since, who was in possession of ample funds for such purpose; and next, that he should have been singled out—the truth being, if we mistake not, that it had its origin, and if not that, it carried with it something like an electioneering grudge. One point, which is in itself most important, was raised, which affects very materially the operation of the Cost-book System—that of the defendant being liable for materials rendered to the mine, after a notice given by him to the pursuer of his relinquishment of all interest in the shares held by him; and here we arrive at another point, with which it was quite clear that neither the counsel on the one or other side evinced the slightest disposition to grapple with the counsel for the plaintiff, expressing their readiness to reduce the liability of the defendant from £11, 8s. 2d. to 108s. 7s. 9d., being the amount of goods delivered up to the time of such relinquishment—thus throwing the question, which we believe, under any circumstances, was, really, especially those touching the present case, the learned brothers of the law must have referred to his Honour the VICE-CHANCELLOR of the Stannaries Court, at Truro.

There can be no question but, in accordance with the Cost-book System, that any adventurer can withdraw from any mine with which he may be connected, and relinquish his shares—he (the adventurer) so declaring his relinquishment, in writing, to the pursuer, being entitled to his proportion of all cash in pursuer's hands, ores, machinery, and materials upon the mine; at the same time that a power is thus afforded to the adventurer to release himself from all future claims or liabilities, and to secure his fair proportion of any assets which may exist, it behooves him, so as to render such relinquishment perfect, and that, at the same time, it should be binding on his co-adventurers, and also on the pursuer, in receiving and recording the same in the cost-book; that he, the party so relinquishing, should pay up his proportion of all costs, or liabilities, incurred up to that time. This, however, it would appear the defendant had neglected to do—and hence the very pretty question arose as to the construction to be put on the Cost-book System, and hence the course pursued by counsel in the cause. The result of the proceedings in the Court of Exchequer, on 7th December last, formed the grounds of application to the VICE-CHANCELLOR's Court; and the subsequent appeal and reversal thereof by the LORD CHANCELLOR—a verdict having been given against the defendant for the lesser amount.

We now advance another week, when we find that, in the VICE-CHANCELLOR's Court, a petition is presented by the defendant, under the Joint-Stock Companies' Winding-up Act, for the purpose of dissolving the company, and declaring it bankrupt, on the ground that the company was insolvent, and that the petitioners had been proceeded against for a debt due by the shareholders collectively, and a verdict recorded against him. The clause in the Act recites, that "if any action shall have been brought against any contributory, or adventurers, of a company for any debt, or demand, claimed to be due from such company, and such company shall not, within 10 days after notice, in writing, by such contributory of such action shall have been served on the company, have paid, secured, or compounded for such debt, or otherwise procured such action to be paid, or shall not have indemnified the defendant to his satisfaction against such action, and all costs, damages, and expenses to be incurred by him by reason of such action, then that the contributory may present a petition to the LORD CHANCELLOR, for the purpose of dissolving and winding-up the affairs of such company." On this occasion, counsel on behalf of the company contended, that it was not one which came within the meaning of the Act; and, secondly, that the petitioner was not in a position to claim any benefit under the recent Act—inasmuch that, according to his own representations, he had relinquished his interest in the mine in November, 1846.

Thus it would appear, that whatever may be the argument of counsel in the Court of Exchequer, on the part of plaintiff or defendant, there is no reason why the same should be pursued in the Court of Chancery, such being one of the intricacies of the law, and its application to the several respective courts. These objections were, however, as we think, very properly overruled by the VICE-CHANCELLOR, who stated that it was quite evident in this case, that it was an attempt to make contributors pay the debts of the company, and that the company had set a creditor upon an adventurer, and that the latter was forced to pay calls. This, however, was a proceeding he could not sanction, as being contrary to the spirit of the law, and the intention of the Act. We may here observe, that the VICE-CHANCELLOR evidently knows but little of the Cost-book System and the working of mines, inasmuch that in the absence of an application to the VICE-WARDEN's Court, the only redress of any creditor for materials supplied to a mine is by the ordinary proceedings against any one adventurer for the recovery of the amount due, treating the party against whom proceedings are to be taken as one of a partnership, and not as an individual liable for the debts incurred by the body.

In the end, the VICE-CHANCELLOR made an order that the costs of defending the action having been referred to the taxing officer, and the debt and costs of the plaintiffs having been settled, that upon notice being left at the counting-house of the mine, in case such debt should not be liquidated by the pursuer or company, minus such amount as might be found due from Mr. WYLD for calls on shares held by him within seven days from the time of such notice being given, then that an order be made dissolving the company.

We now advance another step, and find that, on the 25th January, an appeal is made on behalf of the company to discharge the order above recited. Here, having gained the LORD CHANCELLOR's Court, we find that counsel contended that the defendant is, in all intents and purposes, an adventurer in the mine up to the present moment, and, consequently, so in February, 1848, when the action was first brought—thus again affording a further instance of the veracity of the genius and talents of the gentlemen of the bar; and it is here worthy a passing remark, that, upon the three several hearings, three distinct sets of counsel were employed by the company—so that, to use a vulgar expression, neither one nor another were required to eat their own words. The counsel upon this occasion contended that the company was not an adventurer, but was a company within the meaning of the Winding-Up Act, which only extends to joint-stock companies within the meaning of the 7 and 8 Vic. c. 111, and 8 and 9 Vic. c. 98, being the Acts recited in the 1st section of the Winding-Up Act. It was also contended that the company was in a solvent state, and that, with the exception of the party applying for the order, the other contributors were anxious to carry on the company; on the other side, it was contended that the company had been carrying on operations for the past four years with considerable loss, and were at this moment in debt, at the same time contending that the second section of the Act brought this company under its operation.

On Monday last the LORD CHANCELLOR gave judgment, in the course of which he stated that, in his opinion, the second clause which had been referred to, was only intended as a further description of those particular companies contemplated by the Act, it being manifest that certain companies, such as the present, were clearly exempted from the preceding Acts, of which that immediately under notice was only an amendment. Without following the opinions expressed by his lordship, it is sufficient to say that the order of the court below was reversed. We have already carried our observations to so great a length, that we must needs defer those remarks which apply to the case under notice until next week's Journal.

TONGU IRON-WORKS, CARDIFF.—The extraordinary quantity of 6094 tons 13 cwt., or 116 tons weekly average, of pig-iron, was made, under the able management of Mr. James Cadman, during the year ending 29th December, 1848; at the above works, the property of Sir Robert Price, Bart., M.P.

Original Correspondence.

VENTILATION OF COAL MINES.

SIR,—It was but in your last week's *Mining Journal* that you recorded another of those awful calamities in coal mines—explosions of carburetted hydrogen—by which 83 human beings were suddenly deprived of life, and their wives and families of their supporters and protectors. When I consider that this, although most severe as to numbers, is no isolated case, but that these fatal catastrophes are of continuous occurrence (indeed, I fear so much so, that the public do not hear of one-half of them), it appears to me to be the bounden duty of every one in the most remote degree connected with mines to use all his exertions to bring about a safer mode of working collieries than at present prevails, which can only be secured by better and more certain ventilation in all states of the atmosphere. With these views, allow me a small space in your valuable columns to describe a plan which, I feel satisfied, will prove effectual under all circumstances, at the same time that it would be very economical in first cost, and kept in repair at a trifling expense. Should the suggestion be the means of preventing a single accident, and thus saving human life and property, my sole object will be accomplished.

I will suppose a shaft about to be sunk for a new coal work; I would, in the first place, have the steam-engine erected, and a fan-blast put to work from the shaft of the fly-wheel. From the drum of the fan, with one end connected with it, I would carry a wooden trunk, constructed of 1-in. elm, and 9 in. by 6 in. in its transverse measurement, to and down the shaft; and in it, just below the fan, I would have a slide, or damper, to regulate the admission of air; the trunks should be made in 7-ft. lengths, the ends to slip one into the other, similar to a common socket-joint. As the shaft proceeds in depth, the men keep adding on the 7-foot length of trunk; and when they require air, it is but for the engineman to open the slide, if but half-an-inch, and it will keep the bottom of the shaft clear and pure; and if the engine works for five minutes in a morning, with the damper open, before the men go down to work, the shaft would be perfectly safe. I will now suppose the shaft has proceeded in this manner, and safely arrived at a depth of 200 yards, the trunk being continued to the bottom, and that the sinkers have now arrived at the strata of coal on which they are going to work. I now commence driving four gate-roads, east, west, north, and south; four leaden pipes, of sufficient diameter, are inserted into the end of the trunk, bent round the shaft to be out of harm's way, and carried into the gate-roads, in each of which there should be similar wooden trunks to the one in the shaft, 5 in. by 4 in., and into which the ends of the leaden pipes are to be inserted. These smaller trunks are to be stayed to the roof, or top corner, of the gate-road, and each to have a damper, or slide-valve, at the end nearest the shaft. Having driven these gate-roads to the extremities of the ground, adding the lengths of trunk as it proceeds, I should then commence a right and left-hand working, inserting a zinc tube, 1½ inch in diameter, into the end of the trunk in 7 ft. lengths; by this means, should a fall of roof injure them, two or three lengths could be taken down and easily repaired. I then commence another right and left-hand working back towards the shaft, and insert another 1½ in. zinc tube, similar to the former one, the leading length having a slide. Now, the air from the fan will, by its elastic pressure, be equally distributed throughout all the pipes and workings—those worked out as well as those still working; and, by a little attention in keeping the slides properly regulated, it must drive out all gas and impure air from the extremities of the workings, and render them quite safe to work in with a naked candle. If the engine is set to work every morning for one hour before the men go into the pit to work, the whole of the mine will be pure and safe in every part, under all conditions of the atmosphere, and a furnace at the top and bottom of the upcast shaft.

I have well studied the several systems of ventilation at present in use, and seeing their uncertainty and inefficiency, and lamenting deeply the increasing sacrifice of human life, I send this, hoping to see it in your valuable paper, offering it for the consideration and adoption of the mining world generally. I have a descriptive diagram of its working, which I shall be happy to explain to any parties interested in the subject.

Bromsgrove, Jan. 30.

JOHN ROGERS, Mine Agent.

[If Mr. Rogers will forward us a copy of the diagram, we shall be happy to show it to any parties in, or coming to, London, who may feel sufficiently interested in the subject to call at our office to inspect it.]

THE DESTRUCTION OF HUMAN LIFE IN COAL MINES.

SIR.—Another lamentable accident has occurred, by which eighty-three human beings have been hurried into a premature grave! In your *Journal* of the 27th inst., it is stated that this loss of life was occasioned by an explosion in a colliery, called the Darley Main, near Barnsley, in Yorkshire. As the inquiry into the cause of this accident has not been completed, all comment upon it is obviously inexpedient. Yet, the subject generally is too important, and too intimately connected with the best interests of humanity, not only to justify, but to demand, the serious attention of the public being directed to such measures as may possibly prevent the occurrence of them. There can be no doubt but that a fearful responsibility rests somewhere; whether with the Government, the coal-owners, or with the people generally, or with all, it may be difficult to determine. That if these fatal accidents cannot be altogether avoided, yet that they may be very considerably diminished, has been proved to the satisfaction of every unprejudiced mind that has paid much attention to the subject. Royal and parliamentary inquiries, by commissioners and committees, have been instituted, and the facts elicited by them have conclusively proved the urgent necessity there is for legislation, as well as the practicability of remedying, to a very great extent, the existing evils. That nothing further has been done, may possibly be attributed mainly to the apathy of the public, arising chiefly from a want of information. For had the subject been pressed upon the attention of the Government, by numerous petitions to Parliament, its urgent claims to immediate consideration are too strong not to have been favourably received. In the absence of any "pressure from without," it is not to be wondered at that the Government should permit this question to give place to others which were more strenuously forced upon its attention. The session of Parliament now about commencing, it is to be hoped, will have this subject frequently brought before it by numerous petitions, and that the press will give its powerful aid to the cause, by diffusing information upon the subject, and advising the public throughout the kingdom to petition Parliament for such measures as may tend to diminish the enormous loss of life and great bodily suffering to which our colliers and miners are now exposed. You, Sir, have long and most ably advocated the claims of the miner to legislative protection, freely lending your columns for the discussion of the subject, and have recorded the weekly sacrifices of human life which have been occasioned by the supineness of the Government, or the apathy of the public. Your conviction of the necessity there is for some remedial measures will, doubtless, be strengthened by the recent calamity, and will induce you to persevere in befriending, by your powerful advocacy, those who are unable to help themselves, and whose exposure to danger is indispensable to our national existence. Were it possible to induce the public generally to petition Parliament on the subject during the present session, there is little doubt but that Government would readily yield to the pressure, and introduce such measures to the Legislature as are obviously required. It is very probably that any attempt to enact new laws in relation to the management of mines, may have to encounter a strong and persevering opposition from parties interested, and, therefore, the general expression of public opinion becomes the more necessary, in order to enable Her Majesty's Ministers to carry their contemplated measures.

It is obviously of great consequence that the importance of petitioning Parliament should be kept before the public, and that strong and simultaneous efforts should be made, throughout the kingdom, to induce the Legislature to take the subject into its immediate consideration, and provide such remedies as may diminish the serious evils to which so large a portion of the industrial population is exposed.

Neath, Jan. 29.

JOSHUA RICHARDSON, C.E.

THE COLLIERY EXPLOSION AT BARNSELY.

SIR.—The *Times*, of Monday last, contains the proceedings of the coroner's inquest at the fatal colliery accident near Barnsley, upon which I will, with your permission, make a few general observations.

The undeviating evidence of the colliery shows that the colliery was working after the long wall fashion—viz., by taking all the coal away in the first instance, that, as a necessary consequence, the gob, or goaf, was imperfectly filled with small coal and rubbish, which, whilst it effectually resisted every current of air, was yet open enough to harbour great quantities of gas; which is also corroborated by the evidence of Maddison, the viewer, who said that the fire had been in three different quarters of the

mine. It further appeared that, notwithstanding the high winds affected the ventilation, yet were they working in the midst of these goaves with naked candles; and so little dread of danger seemed to exist, that the overman or manager of the underground department was, for several preceding days, doing the business of the above-ground steward, his own onerous duty being left to the fireman, Addy. It does not appear that any scientific viewer had charge of this dangerous colliery, which also, in the year 1847, destroyed upwards of 70 persons. According to the viewer, it was taken to be a well-ventilated pit, with about 6000 cubic feet of air per minute in the principal air course; although Mr. Beaumont pointed out considerable improvements that might be made in the ventilation.

To experienced persons, the general description of the colliery, and its management, will savour of indiscretion; for in a mine which produces gas, these goaves are sure to be foul; and to work in their contiguity with naked candles, whilst even the very ventilation was baffled and deranged by the high winds, would appear reckless. As to this, or the other, being to blame for setting fire to such a mass of combustible, it is beside the question. A shovel was placed as a sign that the candles were to be kept low, because the upper region of the air was dangerous; and yet it was expected that common colliers would observe such hairbreadth niceties. Without, therefore, prejudging the facts which will be brought before the scientific gentlemen to be sent by Government, we may opine, that they will especially direct their inquiries as to the general principles of working, condition of the ventilation, and the state of these goaves in a thick seam producing gas. For if these matters were wrong, then the principle of working should have been changed; and it is in such preventive measures that a salutary check would be introduced by parliamentary legislation, in which the functionaries of the Act would suspend, or stop altogether, any system of working which was replete with more than ordinary danger; whereas at present the evil is first perpetrated, and then the inquiry made as to who is to blame.

I forbear to remark upon the surprise expressed by the coroner, that any man would continue to work in a colliery which he considered dangerous. Now, there is nothing at all remarkable in this, for men accustomed to danger become so familiarised with it, that they lose that species of alarm which he imagines; besides, the common workmen are not expected to understand the condition of the air-courses, or wastes, except, indeed, they are so very faulty that they become matter of conversation amongst the pit's crew. Had there been a Government inspector in the district, he would, undoubtedly, have come to the knowledge that this was reputed to be a dangerous pit, therefore his duty would have led him to examine it; and if found as the men described it, he would, undoubtedly, either have ordered it to have been worked with safety-lamps, or to be discontinued altogether, and so have warded off this dreadful event. However, it is now to be hoped that Parliament will no longer delay proceeding with some measure, be it ever so simple, to enable preventive measures to be instituted.—OBSERVER: Durham, Jan. 31.

IMPROVEMENTS IN PUMPING WATER FROM COAL MINES.

SIR,—I beg to transmit you, for insertion in your valuable Journal, an account of some improvements which I propose to make in the manner of pumping water from the coal mines in this district. Those who are acquainted with the pumping of water from mines, by means of the lifting sets, or common plunge buckets, are aware of the frequent and serious delays and expenses occasioned by the breaking of the spears, which in heavy establishments it is impossible to prevent, even under the most experienced and judicious management. The great weight of the spears and rods require engines of extra strength, in order to bear the shake and jar of such a mass of materials suspended from the beam. Hence the very large engines required for the pumping of a comparatively small quantity of water from any great depth.

The principal objection to the use of forcing sets in mines, and particularly in the northern coal-field, has very justly been the great liability to fracture, owing to the thrust on them tending to cause great lateral flexure, to obviate which a great number of collarings are required, thereby much increasing the friction, and occupying much valuable space in the shaft. The object of the proposed improvement is to attain the greatest effect from the engine power, and also the diminishing the cost of the first establishment, and the annual maintenance of the pumping apparatus. The method which I propose is, to use a double force pump, with solid rams, and to work these by means of wire-rope, or chain. Some of the advantages which I expect from this arrangement are—1. The saving in the primary cost of engine and engine-houses.—2. The saving in the cost of pumps, owing to a smaller and lighter column being as effective as a much larger one in the system now in use.—3. In the difference of the original cost of wire-rope, spears, collarings, &c.—4. In the annual cost of maintenance, owing to the wear and tear of rams being less than that of buckets, and the reduced liability to fracture, and increased facility of repair, in wire-rope, compared to that of spears.

Another advantage is in the great saving of shaft room, which is more apparent in deep mines, from the number of sets required in the present system, independent of each other, that the spears may clear; whereas, in the wire-rope system, any number of sets may be placed vertically above each other. Also, instead of one-half the time being wasted on the return stroke, as is the case in the lifting sets, in this system there is a constant flow through the column—thus a 12-in. column becomes equivalent to a 17-in. set of the lifting pumps. This system is capable of many modifications, both as double and single sets. In a subsequent letter, I will proceed to give you a more detailed account of the machinery requisite for carrying into effect this improvement. HENRY GORDON LONGRIDGE.

Newcastle-upon-Tyne, Jan. 29.

COPPER SMELTING.

SIR,—In my last week's communication, I hinted at the possibility of copper smelted in Australia competing with our home-smelted copper in the Indian market, and I see, by the Journal of the 27th Jan., that such is actually the case—several tons of 90 per cent. copper having already been shipped to Singapore. It is true, however, that if no better copper than the above could be manufactured in Australia, there would be little chance of a supply from that country injuring our market; but it must be remembered, that this is but an experiment, and the parties conducting it are, most probably, comparatively unskilled in the operations. But such will soon cease to be the case. The Messrs. Schneiders' smelting staff has arrived, and, doubtless, will speedily commence operations, under Napier's patent. Again, it appears that the formation of the Australian Smelting Company is completed, so that there will be yet another efficient body of men in the field to dispute, not only our Indian, but in consequence of the facility of working the carbonates and oxides, our home market, I fear, likewise. Hence, then, there appears an actual necessity for our smelters, or any other parties now thinking of embarking in the trade, to change the ordinary method of working, and adopt some more rational (because less lengthy and expensive) means of reduction. Whether this is effected under one person's patent or another, is a matter of indifference, so that it be done; but whatever is to be effected should be effected immediately, otherwise it will be useless.—JOHN MITCHELL: Hawley-road, Kentish Town, Jan. 29.

COPPER SMELTING.

SIR,—I perfectly agree with Mr. J. Mitchell, that the expense of obtaining the sulphur and iron from copper ores would leave but a small profit on the outlay, and that parties had much better turn their attention elsewhere to economise. It would be far preferable to operate on the muds of Cornwall for the arsenic, sulphur, copper, and other metals they contain; also the gold and silver that the residue of many would produce.—A. MEERY: Birmingham, Jan. 29.

COPPER SMELTING.

SIR,—I believe it will be admitted, without fear of contradiction, that none of your correspondents have called in question the absolute necessity there is in this country for improvements in the ordinary process of copper smelting. There is, however, a wide difference of opinion as to how such improvements are to be effected.

It appears, for instance, in Mr. Mitchell's letter, in last week's Journal, that he will at least—in his forthcoming specification—disregard the loss of sulphur and iron in smelting the common ores of copper. Of course, I differ entirely from him, and chiefly on account of the three following reasons:—Firstly, the enormous quantity of sulphur that would be lost, or volatilised into the air by the common calcining (wasting) furnaces, to the injury of the neighbourhood; secondly, the great loss of profit consequent upon thus dissipating the sulphur, instead of saving it as sulphuric acid; thirdly, omitting to turn to account the thousands of tons of iron pyrites, which might be raised economically in the same mines with the copper ores.

In regard to the first reason, it was only a few weeks since that an alkali work in Yorkshire was stopped, because of the nuisance arising from the spirit of salt, which though not the worst kind of nuisance, is bad enough, even in the most favourable localities for condensing the gas; indeed, the idea of a patent granted a few years since for making alkali at sea, is not now quite so Quixotic after all. With respect to the second, if we take the average per centage of copper in the last sale of 789 tons (21 cwts.) of copper ore raised at the Consols Mines, at 6'94, and that of sulphur at 22'5, we shall find that to make 100 tons of copper no less than 324 tons of sulphur must be lost or volatilised into the air, as sulphurous and sulphuric acids, exclusive of arsenious and arsenic acids, oxide of zinc, and antimonious acid; and, supposing the freight and insurance to be 6s. per ton (20 cwts.). These charges amounted to 97l. 4s., besides wasting the 324 tons of sulphur. Now, I unhesitatingly affirm, from my own experience, that the sulphur, in a great measure, can be most economically saved in the shape of free sulphuric acid, and the most part of the remainder ultimately as copperas, which may be applied to decompose salt to make alkali, without creating a nuisance.

Lastly, the sulphur of commerce that is used to make sulphuric acid is a very impure article, for I have found, in operating with some hundreds of tons, that much of it contains from 7 to 14 per cent. of fixed impurity alone. No wonder, therefore, that the illustrious Baron Liebig, in his last edition of *Turner's Chemistry*, says that "Arsenious acid, derived from arsenic in the sulphur used in the manufacture, has been lately detected in most of the oil of vitriol made in Germany." The rich iron pyrites raised in Cornwall, and that which contains 10'5 per cent. of silex, gathered on the Isle of Sheppey, and round the south coast of England, are much to be preferred for making pure vitriol. The calcined iron pyrites, though not equal to Musher's black band—as it always contains a small quantity of sulphur, either as such in combination with the iron, or oxidated and combined as sulphate of the protoxide of iron—might be reduced by smelting with compressed peat or coal, and the metallic iron used for precipitating pure copper. In corroboration of what I have here stated, it is now well known, that the nuisance arising from unconsumed smoke in furnaces, is not only rectified by some inventions, but the gain, after a trifling outlay for the apparatus, amounts to from 7 to 9 p. cent. of the fuel employed. And why should it not be to a far greater extent, when iron pyrites is the fuel used to roast copper ores, and the valuable vapours of both condensed as sulphuric acid? Perhaps in a future letter I may have the opportunity of stating my experience of making vitriol on the large scale; at present I will not encroach further on your valuable space.—W. BIRKMYRE: Feb. 1.

THE COPPER TRADE.

SIR,—I should be unwilling to intrude on your columns with regard to this subject, which, I may say, has almost been worn threadbare, but the letter of your American correspondent, "G. B.," in last week's Journal, induces me to trouble you with a few brief remarks. It appears, that while we have been discussing the subject of the mining and smelting interests, our trans-Atlantic brethren, in their usual go-a-head style, have erected smelting furnaces in several places, and already successfully commenced operations, proving what has been so often adduced by various of your correspondents, that the capital required for the plant of a small smelting-works, is not so enormous as has been imagined. Your correspondent says, and with justice, "while with no experience, comparatively no means, and doubt as to the supply of ore, we can start the business in the United States, it is not done in Cornwall, let us hear no more whining about the terrible smelting companies." In most parts of the county of Cornwall, a reverberatory furnace, of the usual size, could be constructed for about 100l.; one of these furnaces would smelt 30 tons per week, exclusive of fuel slags and slags from the metal furnace. Three of these furnaces would smelt 90 tons per week, allowing for the time they would be under repair and out of fire; the smelting would be about 4000 tons per annum. To reduce this to fine copper, in addition to these furnaces, a calciner, which could be used both for the ore and regulus, would be required; this would cost about 150l. One metal furnace, which could be occasionally employed to work the ore, a roaster, and a small refinery, the erection of which would be about the same expense as that of the ore furnaces, is all that is necessary.

There would be no difficulty, should any mining proprietary form an establishment of this description, if their own ores were stubborn, of their being able to purchase small parcels of more fusible ore to flux them. It requires but one small energetic company to start, and there is no doubt but others would soon follow in their wake. The copper thus produced would be thrown into several hands, and exposed to a fair competition in the market, which would materially benefit all parties interested in its production and consumption; while we should still retain the proud position we have hitherto held, and which, I fear, unless some change takes place, we are in danger of losing. That the introduction of the German method would be a saving there is no doubt, but I much question whether in Devonshire, or Cornwall, the local authorities would allow calcining in heaps in the open air. In parts of Germany where it is practised, the sulphurous vapours destroy all vegetation in the vicinity of the works, and when there are high winds, an offensive smell is perceived some miles from the spot. In Norway and Sweden the mines are not allowed to calcine their ores but at such periods as the snow lies on the ground, and, I apprehend, the attempt at the introduction here would meet with great opposition from all parties having land in the neighbourhood; and from this cause, however beneficial it would be to the miner, I do not consider it would be practicable here.—DELTA: London, Jan. 29.

METALLIC DEPOSITS.

SIR,—There is nothing new in gold being found interspersed in ferruginous quartz veins—indeed, these kind of lodes are innumerable in all gold producing countries; but to find such lodes sufficiently productive to pay companies, would indeed be something new. This view of the case is entertained by all those who have had anything to do with gold mines. Mr. Hopkins's report on the gold mines of Panama, Veraguas, &c., confirms also the same general opinion of the poverty of quartz lodes. I am glad to observe that the important distinction between alluvial deposits and veins are now appreciated, and supported in your able Journal. I am sorry to find that Mr. Hopkins is absent from England, as I was anxious to see him entering further into this subject. Mr. Musket does not appear to understand the important distinction between the two sources of metal in an economical point of view. A MINE AGENT.

Cornwall, Jan. 31.

THE BOVEY COAL OR LIGNITE—EXPERIMENTS.

SIR,—Having within the last three months devoted some attention to the nature of Bovey coal or lignite, and also conducted experiments, with a view of testing its purity and applicability to the smelting of iron, or any other useful purpose, I am led to believe the facts I have elicited may not be without interest to "Exon," and many other of your Devonshire readers, perhaps, included. The first specimens of lignite I examined were in small flat pieces, with a shining fracture, of a dark brown colour, and possessing greater similarity to wood in texture and general appearance than the specimens subsequently analysed. This variety, I was given to understand, was considered useless, as containing a large amount of clay, and rejected in the pottery works, near Bovey Tracey, where this substance is used for fuel. My first object was, therefore, to determine the relative amount of carbon and bituminous ingredients, compared with the water and ash it contained. The result was the following—

	1st experiment.	2d experiment.	3d experiment.
Water	(per cent.) 25.0	35.6	21.7
Ash	3.14	—	0.98

The third result was obtained from a larger specimen of the same kind of coal. The moisture was also estimated in other pieces, weighing from 200 to 800 grs., and always amounted to between 20 and 30 per cent. This small quantity of ash, indeed so unexpectedly small, was highly encouraging, as it seemed to promise a fuel of great value for many manufacturing purposes, and, if some process could only be discovered for deodorising it, fit for general and domestic use. A larger quantity was consequently submitted to me for examination, by a gentleman interested in the subject. This time it was in pieces weighing from 3 to 30 lbs., much darker—in fact, nearly black—heavier, and scarcely distinguishable from ordinary coal, except in being less brilliant, and having a more regular fracture. I submitted this also to the test of analysis, and the annexed experiments will show with what success—

	1st experiment.	2d experiment.	3d experiment.
Water	(per cent.) 31.3	32.3	23.3
Ash	3.0	1.46	0.9

These results at once proved that the Bovey lignite differs exceedingly in its amount of solid residue, and that a careful examination of the numerous beds is highly requisite, before any attempts are made to intro-

duce it to the notice of capitalists as an object for speculation or profitable expenditure. I have heard, from a gentleman who has since visited the spot, that the lignite last examined is of about the average quality, though there appears to be some of the superior kind also—specimens of which I hope soon to have again furnished me for further examination. With regard to coking, I fear the difficulties are very great; for the mere drying, at a temperature of 100° to 150°, so expands the pores of the lignite, that it cracks up into mere chips, in which state it is comparatively useless; and, unlike small coal, does not again cohere in the retort. An average ton of lignite may, therefore, be regarded as containing—carbon, &c., 11 cwts.; water, 5; ash, 4=1 ton of lignite (30 cwts.) How far this is applicable for the purposes of the Bovey Iron and Charcoal Company, it is for its shareholders to decide. I may, however, add, that the heat which the lignite evolves on combustion, with all its water and ash, is very considerable, from the great volume of flame attending it; but the residual ash is enormous, almost filling the furnace itself.

Jan. 30.

FRANCIS RUDALL.

BOVEY IRON COMPANY.

SIR,—As the object of the proposed company, alluded to in your Journal of the 20th inst., appears to be the same as the West of England Steel Company—that of making *best bar-iron*—perhaps a few observations may not be unacceptable, as some years ago I had the conducting a series of experiments abroad on puddling with raw lignite, as well as with lignite charcoal. I think the Bovey Company may go boldly to work and use the raw fuel, both in the blast and puddling furnace, to much greater advantage than by first charring their coal, as in the blast-furnace there will be less waste from dust, and the fuel will be sufficiently charred before it arrives at the hearth; and, in the puddling furnace, it will be found that, if the pig-iron is of that quality fit for making the *best bar*, it will not require again to be brought in contact with charcoal in the puddling process, as it will, by smelting with lignite, have absorbed sufficient of that substance, which chiefly causes the superiority of charcoal iron; but, should charring the coal be considered a *sine qua non*, probably the injecting steam at a temperature of 600° or 700° Fahr., into large kilns, as adopted in Bavaria for charring peat, will be found more economical than charring in the common way. The proximity of the Bovey coal to ore, similar to the Dannamora, has probably suggested the proposed company; and, as the projectors are said to be practical men, we may hope soon to hear favourable results.—E. K.: Jan. 23.

ON THE USE OF PEAT FUEL IN MANUFACTURING IRON.

SIR,—If your correspondent, "E. K.," will oblige by giving a little more information on the use of peat fuel in puddling and mill furnaces, he will confer a great favour on me, and many others, who are personally interested. I am surprised at his statement, of requiring only 9 tons of peat to puddle 10 tons of iron. He, no doubt, can inform us how many tons it takes for 10 tons of finished bars—that is, from the pig to the finished bar; and, perhaps, he can also inform us how much peat charcoal it takes in the blast-furnace for a ton of pig-iron produced, when the ore yields, on an average, 50 per cent.—V. P.: Jan. 25.

IMPROVED PRESSURE GAUGE.

SIR,—The annexed diagram represents a new steam gauge for measuring the pressure of fluids; it is partly in elevation and partly in section: *a*, is the pipe which connects with the steam-boiler, or other reservoir, the pressure of the contents of which it is desired to measure; *b*, is a tube of vulcanised India-rubber, attached to the expanded end of the pipe, *a*, by tying, or otherwise; the lower end of the tube, *b*, is closed by a plug, *c*, to which the pointer, *d*, is affixed; *e*, is a compact helical coil of steel wire, surrounding and preventing the India-rubber tube, *b*, from expanding in the direction of its diameter; the coil of wire, *e*, is made fast to the pipe, *a*, and plug, *c*, and acts in conjunction with the elasticity of the India-rubber tube in measuring the pressure of fluids, in the same way as the spring balance does in the weighing of solids; *f*, is merely an external case, or tube of brass, which protects the gauge, and to which the index plate is attached. That a simple, accurate, and inexpensive pressure gauge is a desideratum of more importance than at first sight it appears to be, all who have had to do with high-pressure engines will admit. I say high-pressure steam-engines, because in those that work but at 8 or 10 lbs. above the atmosphere, such pressures are measurable by a column of mercury of a few inches; but with pressures from 30 to 100 lbs., and upwards, it has hitherto been necessary to make use of the compressed air-gauge—which gauge has many defects, such as the indistinctness with which it indicates the units of pressure on the higher portions of the scale. I have been at much pains to procure glass tubes, of such diminishing size of bore as would compensate for this varying density of the compressed air contained in the gauge, so as to equalise the scale; but hitherto I have not succeeded at all to my wishes, and I fear that, from the manner glass tubes are made, it will be a difficult matter to obtain such tubes of the accuracy required. But, if this was accomplished, the compressed-air gauge is subject to another cause of derangement, as, under great pressure, the air combines with the mercury, or other matter therein contained. I have used the compressed-air gauge for these nine years, and I have invariably found such to be the case; the glass also becomes discoloured about the working point, so as to render the quick-silver invisible; but besides, owing to its being made of glass, it is, in all its forms, very liable to get broken.

It was this last objection that impelled me to seek a substitute, which should be composed of a less brittle material. Wanting a gauge for a portable engine, I required it to stand the shocks of the common road. This want suggested India-rubber, combined with the spring in the manner set forth; experiment proved its complete adaptability, as by such combination we can obtain any degree of traverse in the pointer upon the index-plate—the traverse also being uniform at all pressures. I have measured pressures up to 150 lbs. per square inch with such gauges, and have caused the India-rubber tube to elongate 2 ft. 8 in., without rendering asunder. Of course, we can confine its elongation to any extent we desire, by increasing the strength of the spring, or diminishing the bore in the India-rubber tube. The above is a gauge in every way fitted for locomotive purposes, much resembling a spring balance, which in effect it is. To convert it into a vacuum gauge, it is only necessary that the external brass tube, *a*, be closed, and a communication be made with the interior of such tube, and the condenser—the atmosphere entering at the pipe, *a*, the tube of India-rubber, *b*, will, in this case, be in the same relation to the external atmospheric pressure, as in the steam-gauge it is to the steam in the boiler; a small wire connected inside the India-rubber tube with the plug, *c*, would, by a pointer attached to its upper end, indicate the pressure on an index plate attached in this case to the pipe, *a*, which should have a slot, as in the brass tube shown in the diagram. This combination has its value for other applications, such as connecting the tender to the locomotive, or other purposes where the properties of elongation and contraction, with flexibility, are essential—vulcanised India-rubber being capable of standing a considerable degree of heat, without materially affecting its texture, renders its range of utility for such purpose greater than any other animal or vegetable substance.—THOMAS CRADDOCK: Birmingham, Jan. 29.

CRADDOCK'S IMPROVEMENTS IN THE STEAM-ENGINE.

SIR,—The laudable manner in which Mr. Weston has expressed himself in his letter, inserted in the *Mining Journal* of the 6th inst., is strikingly diverse to that I had occasion to allude to in mine, of the 30th of December, where the poisoned dagger is ever wielded in the dark. That the brief exposition given in my lectures of the principles from which the steam-engine has derived its present efficiency, and the means whereby we may yet considerably increase its profitable application, should have directed, or assisted, any one in prosecuting their labours for improving it, is to me some recompense for the great expense incurred and the many years of anxious thought and toil I have devoted—not to the mere enunciating of principles, but to the carrying out of those principles practically. In early life, I was foolish enough to imagine, that if I devoted my energies to the investigation of subjects calculated to advance the interests of mankind, that at least (if I could), I should be permitted to benefit them; but, alas! how little does the youthful aspirant anticipate that cold, calculating selfishness, which, goaded by envy, is unrelenting in the torture it inflicts upon those who dare to appropriate the elements to man's service. Owing to the partially informed state in which mankind has hitherto existed, there has ever been found in the world a class of men, who, though incapable themselves of producing any comprehensive improvement, yet

have had sufficient power over the multitude to render the most formidable obstructions to those, who, having such power, should dare to introduce their innovations. It is by this combination of circumstances that we must explain that strange anomaly presented, in the fathers persecuting, and their children building the monument. I may mention the case of Watt, as an illustration, of how far mankind are misled by placing implicit confidence in those whose interests and wish it is to suppress good inventions, and to rob the rightful owners of their just reward.

How long this blind infatuation is to render mankind the neglecters and punishers of those who most deserve their encouragement, it is difficult to say; but, I fear, until men become individual thinkers, and investigate for themselves matters presented for their acceptance, one thing is clear, that the interests of the great mass of mankind, and that of those who produce good inventions, are one and the same; whilst the interests of the few who would suppress such inventions are opposed to that of the public. Hence it does appear to me, that if we wish to advance the cause of truth and honesty, and are sincere in our desires for the prosperity and happiness of mankind, that nothing is of so much importance as that universal education, which would enable all men to discern clearly those fundamental principles upon which the various branches of human knowledge are based: such knowledge, I think, may be acquired in youth, and from it would result a force of thought, which the possessors, in after life, would be able to turn at will upon any subject.

Mr. Weston speaks of the condensation of the steam by the atmosphere, as if it was a more theoretical idea—whereas it is not a more realised fact that Watt condensed in a separate condenser, than that I condense the steam and obtain the vacuum by the atmosphere—may more, realise the Cornish economy, where no water for condensation exists. On this head, too, there is indisputable testimony given in my lectures of its accomplishment in the trial at the London Works, five years ago. The economy of high-pressure steam is admitted by Mr. Weston, as it must now be, by all who will not betray the grossest ignorance upon the subject; but he says there may very reasonably be a difference of opinion as to the safety of high-pressure steam. I reply, that there can be none, when the conditions are complied with, as set forth in my lectures, and embodied in my boilers. Matters of science, such as I am now treating of, are matters of fact, resulting from determinate relations, which no dexterity of argument can alter or gainsay. He says that one-fourth the coal at present required will, ere long, suffice to go to America. I have good grounds for believing he is not far from the truth; but it is my practice to state as fact what I know to be such; which enables me to say—give me a fair opportunity, and I shall more than verify every assertion I have made.

Birmingham, Jan. 29.

THOMAS CRADDOCK.

THE RATTLESNAKE.

SIR,—I am sure you will forgive me calling the attention of the public, in your pages, to the dangerous brood now in the live collection of the Zoological Society, in the Regent's-park. I allude to a female rattlesnake and her progeny—a more formidable reptile than the *Crotalus horridus*, or rattlesnake, does not exist. It is scarcely exceeded in malignity by the *Cobra di capello* of the East, or the *puff adder* of Africa; though the *tie poigona* may quench life with more electric rapidity, the rattlesnake is equally fatal in the wound it inflicts. There is this superadded danger, that the rattlesnake is indigenous to North America, and would find in Great Britain a kindred and congenial climate. The possibility of the escape of one of these terrible reptiles, and the multiplication of the species among us makes one shudder. I did not much like an encounter with a fierce adder, some time ago, in the Island of Arran. I, however, destroyed it; but, I confess, the vision of a rattlesnake would paralyze me. Let it be remembered, that individuals of this fearful brood actually made their escape after capture in their native country; for, if I mistake not, there were originally thirteen of these young reptiles. True, they are in a glass case; but an accidental fracture might liberate them, and the poison they spit when irritated, and projected to a distance, might prove fatal, as was the case in reference to the carpenter in the Tower. The case, too, of the physician who fell a victim to the bite of the rattlesnake will readily be remembered. I saw the formidable rattlesnake which subsequently inflicted the fatal wound on Mr. Drake, at Rouen, in Normandy, when the French Government very wisely passed a law, interdicting the introduction of the live rattlesnake into France; and I have no hesitation to say, that our public authorities will fail in their duty if they overlook the formidable brood I have now referred to.—J. MURRAY: Portland-place, Hull, Jan. 27.

ANEROID BAROMETER.

SIR,—I freely confess that few inventions in modern times have imparted more interest to my mind than the aneroid barometer, as a most simple, ingenious, and useful piece of mechanism. The specific name, perhaps, however, chosen for it, is rather confused, and not happily adapted. It may be asked, "What's in a name?" But there is everything in a name; and that of *aneroid* does not seem to me sufficiently expressive. The aneroid barometer, however, is a truly beautiful instrument; and, what is of far more value, *extremely portable*—of inestimable worth to the mountain traveller. I know, from dear-bought experience, the excessive care required, and the fragile nature of Sir Henry Englefield's mountain barometer, in my Alpine excursions, and those among the Apennines. In 1818, the late Captain Basil Hall, R.N., and myself measured the height of the Simplon above the level of the Mediterranean by the ebullition of water, by means of the delicate thermometer constructed by the Reverend Francis Wollaston for the special purpose; but I can remember that its indications, compared with those of our mountain barometers, gave a difference of 600 feet. It had been hoped that this sensitive thermometer might have been a happy substitute for the instrument of Sir H. Englefield. It has, however, disappointed expectation, and is itself, moreover, a fragile affair.

The aneroid barometer is the invention of M. Vidi, and sanctioned by the approbation, and introduced to this country under the eminent auspices of that justly distinguished chronometer-maker, Mr. Dent, and we have in that introduction a full and ample guarantee for its excellence. I have considered its structure, and find it in perfect harmony with the sound principles of aerostatic science. I am informed that this beautiful instrument has been tested among the mountains in Scotland, and that it has been found all that could be wished for. The aneroid barometer is equally well adapted to the measurement of the deepest mines as the loftiest mountains, for the principle admits of an extension of the scale, and, even then, may be carried in the pocket. To the mariner on the stormy ocean the value of the aneroid barometer is incalculable, from its sensibility, as well as accuracy, and the marine barometer admits of no comparison with its promissory revelations of coming tempest. On the sea-coast, too, such an instrument would forewarn the fishermen of the approaching storm, and be the happy means of saving from the perils of the sea, the disasters of shipwreck, and the loss of life. I can only say, from personal observation, that the recent storms have been faithfully predicted by sudden and considerable falls even in the common barometer. The British public, it appears to me, are under many obligations to Mr. Dent for the introduction of the new, beautiful, and pre-eminently useful instrument—the *aneroid barometer*.—J. MURRAY: Portland-place, Hull, Jan. 29.

A TOAD IN GRANITE.

SIR,—Dr. Murray seems so uneasy upon this subject, that I will briefly explain the circumstances which led me to the firm belief, that I have seen a living toad taken from a block of granite. A quantity of granite was used, some 20 years ago, in repairing the walls and steps connected with George's Dock Basin, Liverpool. In those days, I felt a livelier interest in a cruise off the Ormshead, than in investigating what constituted the life of the atmosphere, or what heals its sickness, or indeed any other stern scientific reality, peculiarly the province of those who never indulge in metaphorical flourishings. I was more ready to seize an oar than a sun-beam, and the act of the sea breeze upon the sails, was more to my mind than that of the electrical sunbeam, by whose miraculous light our free-trade rulers saw their own folly nearly as large as life; whilst Sir R. Peel saw that people were beginning to see through the Bank Charter Act. But to return: my attention was attracted by a crowd of persons surrounding a block of granite, which had been cut apart by the workmen on George's Pier. I was informed that a toad had been found in a cavity, laid open by parting this mass of granite; and, upon inspection, the cavity and the toad were both sufficiently visible. To extricate the creature, one of the workmen cut away a portion of the stone from the edges of the cell, and the toad was taken out, and exhibited signs of life for a time. All parties present seemed to agree that no deception could have been practised; and indeed, from the opening into the cavity having to be enlarged before the toad could be extricated, I believed that, and I now believe, that the toad had been inclosed from the era of "granite infancy."

I do not wish to draw upon the credulity of Dr. Murray; and he will, perhaps, explain why toads are able to live for hundreds of years shut up in timber, for thousands of years in sandstone, coal, &c., and yet they cannot live for a few thousand years more in granite.

With respect to the fossil forms in the granite of Guernsey which I have seen, I am not disposed to surrender up the evidence of my senses to the fiat of even Dr. Murray; and high as his scientific knowledge unquestionably stands, I must remind him that he is not infallible, nor is he the only accurate observer of fossil forms in existence. When Dr. Murray again announces the discovery of fossil human remains in sandstone, I trust I shall not be so forgetful of common courtesy, as to term his enunciation a *fable*, but shall content myself with believing that he is mistaken as to the human origin of the fossils.

ROBERT MURPHY.

Coleford, Jan. 30.

THE POETRY OF SCIENCE.

SIR,—The blushing honours of Count Radlinski come thick upon him. For a time I imagined that in the chevalier's style I recognised the flowing pen of "Ferrous;" but I was in error. The remarks of these gentlemen recall to my mind a couplet which I have somewhere read. It runs thus:

"Asses and owls, unsexed, themselves betray,
When these attempt to hoot, or those to bray."

But the remarks of "Ferrous," upon the ideology of "T. A. E.," are worthy of attention. I would suggest to "T. A. E." that a gigantic swivel-crane, planted midway upon the isthmus, might be employed to raise and swing the loaded ships from ocean to ocean; or the ships might be furnished with an immense pair of cogged paddle-wheels, which, with the assistance of the crew and passengers pushing astern, would enable the sea-horned craft to quit its native element, and travel at the rate of five miles an hour across *terra firma*; or each ship might be furnished with stupendous joint-stock steel springs (from Bovey lignite), upon the grasshopper or kangaroo model, with which it might cross the barrier, *per saltum*, ponds being dug at proper distances in which to receive the flying monster unhurt; or an enormous gutta-percha kite might be kept always flying, and in readiness to take any vessel in tow, and in case of the wind proving unfavourable, a powerful blowing-machine might be placed upon the deck of the ship, and arranged so as to discharge a column of air in the proper direction against the kite. "T. A. E." can readily determine whether these hints are of any value in an engineering point of view, and whether they are likely to supersede his tram-road and patent slips, to say nothing of accidental slips which might occur between the termini.

Jan. 30.

STEAM-CARRIAGES ON COMMON ROADS.

RESPECTED FRIEND,—Permit me to offer some observations to your readers relative to an extraordinary letter which appears in your last Journal, signed "A Road Locomotive Engineer," on the subject of Thomas Clarke's report of Sir James Anderson's steam-carriage. I will pass over his introductory *blustering remarks*, which appear to me to be *unwarrantable*. I am personally acquainted with Thomas Clarke, and will affirm it as my sincere belief, that he is not of an arrogant, thievish, or brutal disposition, and, therefore, he is not deserving of the vulgar, not to say base, insinuations or shafts of vengeance levelled at him by your correspondent. After this, he kindly proposes to undeceive us, and alludes to my being enamoured with Thomas Clarke's report, and, most certainly, his letter has not lessened my favourable opinion of it; but here, methinks, envy peeps out, and reminds me of an older schoolboy venting his spleen upon a younger schoolfellow, who may, by superior merit, have obtained the approbation of his superiors, and, therefore, the former takes every opportunity of annoying the latter by false, or malicious, insinuations. He then proceeds to assert, that most of the *essential principles* which T. C. mentions have already been attained by himself and others; and yet, strange to say, their perfect and successful accomplishments have never made their appearance; perhaps, however, his experience and want of success has convinced him that success is not attainable; but, if so, why does he not honestly avow it, and favour the world with his reasons; the general tenor of his communication seems to justify the latter conclusion, and that, therefore, like the envious schoolboy, he tries to undermine the efforts of others more talented than himself. With respect to his dissent and *unqualified assertion* about the elastic wheel, he seems to be ignorant of the fact, that it may be so constructed as to render it impossible, with a reasonable load, to produce the effect which he describes as an inevitable consequence of the principle and combination, the contrary of which I know from having seen an actual experiment. He then, in an equally *unqualified manner*, asserts that coal cannot be advantageously used, which I also deem contrary to the fact, and, therefore, that he has asserted that which is *erroneous*. It is rather extraordinary, that neither Gurney, Hancock, Squires, and others, did adopt the superior mode of guiding, which, it appears, was so well known 14 to 25 years ago—at least according to your correspondent's statement.

What there is that is so discreditable to Thomas Clarke, I, in my dull comprehension, cannot discover; but let that pass. He then condescends to state, that he can lay his hand upon an *old common road locomotive*, in London, having all the *essential qualifications* which Thomas Clarke has alluded to, and which, in a week, if he had time to attend to it, he would back in performance against Sir J. Anderson's *epic and span* new one. His backing it, no more proves its success, than if a foolish fellow, having more money than wit, was to back a broken-winded horse against a sound one; without due consideration in each case, the party would have to bear the consequences of their own folly. He, however, further states, that he shall surprisingly rejoice if Sir James's plan should succeed; but, judging from the contents of his whole communication, he must excuse me if I doubt the accuracy of his joyful statements; and, as to his charge of trashy style and phraseology, I really think he had better try to extract the beam out of his own eye, before he attempts to pull out the mote from another's eye. I think Thomas Clarke knows a good deal more on the subject, practically and theoretically, than your correspondent, though he may be much younger; and I have no doubt can (if he thinks it worth his while to notice the blustering productions) make a triumphant reply. As to his friendly caution to Thomas Clarke, to be more circumspect in future, I will return the compliment, by which means he may possibly avoid getting into a hornet's nest, instead of the "mare's nest," to which, I suppose, he thinks he has wittily alluded. Your correspondent seems somewhat anxious to impress the belief that he is a person of some importance, by the frequent allusion to want of time to attend to what he may possibly deem such trifling and unimportant matters. He is also surprised that Thomas Clarke should be so daring as to affix his name to such a report. I think it is much to his credit that he has done so; because, when a person attaches his name to a document, it shows his motive, honesty, and principle of action, and is much better than to adopt the principle of a *midnight assassin*, by screening oneself under the mask of a fictitious or assumed name, for the purpose, with impunity, of undermining or injuring the reputation and success of others. If your correspondent has time, and can, without inconvenience, favour your readers with his name, it will afford them an opportunity of awarding personally to whom the meed of their approbation is due. If, however, he is so circumstanced that he cannot, or will not, do so, will he be so obliging as to refer to where this *very complete old locomotive road carriage* can be seen? Unless he does so, we have a right to conclude that his assertion of its existence is not founded on truth; and, until he does so, I must continue to doubt the accuracy of his statements, so far as relates to the perfection described, which, to be sure, to an anonymous writer, is, perhaps, of little consequence. I have ventured to make this reply, notwithstanding the threats held out, the dictatorial caution to circumspection, or the observation about bows and rubbers; based, as I think I am, on the truth, I will not shrink from replying to any future communication your amiable correspondent may be disposed to furnish, if he will favour us with his name.—THOMAS MOTLEY: London, 11 mo. 15.

P.S.—There is, however, one consolation for the promoters of locomotives on common roads—that, whether Sir James Anderson or others succeed or not, will not prevent the possibility of perfect and indisputable success, which neither your *dubious correspondent*, or direct opponents, will dare to dispute, unless they are regardless of reputation—viz.: by putting down *tracks of timber paving*, of which the company now formed may avail themselves, in case it may be deemed more profitable. By adopting such means, the public may be conveyed at, probably, from one-third to one-half the charges now made, at an average speed of 12 miles per hour, with great ease, comfort and safety, and, by adopting this plan, engines but little different to those in use on railways will answer the purpose; so that the difficulties which have attended the attempts at locomotion on ordinary roads will, in a great measure, be obviated. After all, the failures of former attempts must be beneficial to future engineers and projectors, because they will have the advantage of others' misfortunes, and therefore, by cautiously examining the cause of failure, be enabled to say, from their own experience, "*Felix, qui facit, alius pericula cautum.*"

Mr. Thomas Bouch, C.E., of Darlington, has been appointed manager of the Edinburgh and Northern Railway.

INCREASE OF INSURANCES.—In 1831, the value of insured property was something above 526,000,000. In 1841 it amounted to 682,000,000, being about an increase of 30 per cent. in 10 years; and since then it has increased in equal proportion.

HOLLOWAY'S OINTMENT AND PILLS, THE FINEST REMEDY IN THE WORLD FOR THE CURS OF SCROFULA.—David Davis, a miner, living at Newport, had been afflicted from his infancy with scrofula, or king's evil, which was greatly aggravated by the nature of his employment. All the doctors he applied to were unsuccessful in their treatment of his case, even those at the infirmary at Bristol, whether he had gone in the hope of obtaining relief. In this condition he commenced the use of Holloway's ointment and pills, and so rapid was the cure by these fine medicines that it is considered by those cognizant of it to be perfectly miraculous. Sold by all vendors of medicines, and at Professor Holloway's establishment, 244, Strand, London.

PRODUCTION AND CONSUMPTION OF SALT IN FRANCE.

The *Mining Journal* has frequently called attention to the state of the salt production in France, and we think the following statement, from French official sources, will interest our readers at the present moment. The annual production of France at the present time is, according to official documents, as follows:—*Marais salants*, or bay salt marshes, 2,639,222 quintals; boiling establishments, 111,374; mines of rock salt, 420,609; salt springs worked, 314,290=3,485,495 quintals. The same authority states the consumption to be—Used in fisheries, 385,495 quintals; making soda, 550,000; cooking, &c., 2,450,000=3,385,495 quintals. The 2,450,000 quintals, consumed directly in food, is all that paid the duty of 80 centimes the kilogramme (2 lbs.), or 30 fr. the quintal (about 24½ per ton)—the revenue from which was 73,500,000 fr., or nearly 3,000,000, sterling. From this sum, the cost of levying and protecting the revenue had to be deducted, amounting to 13,500,000 fr., so that the Treasury only took in about 2½ millions sterling. Documents, of unquestionable authenticity, show that, before the first French revolution, the consumption of salt in the provinces of Haute Gabelle, or those in which the heaviest tax was raised, did not exceed 458 kilogrammes (about 9 lbs.) per head of the population. The duty was abolished in 1793, and was not re-established until after Napoleon became emperor, in 1806. In this interval, the consumption in those provinces had more than doubled—having risen to 10 kilogrammes (20 lbs.) per head. After 1806, when the duty was fixed at 300 fr. per muid, or 10 fr. per quintal, but was soon raised to 600 fr. per muid, the consumption fell to 6 kilogrammes per head. In 1813, the duty was carried to 1200 fr. per muid, and the consumption fell to 3½ kilogrammes. On the Restoration, a reduction of the duty to 900 kilogrammes per muid took place, when the consumption again rose to 7 kilogrammes per head.

It is hence clear that this duty was highly oppressive in its operation, and there can be little doubt that a lighter impost will greatly increase the demand for salt. Perhaps the greatest inconvenience to the consuming public arose from the necessity of confining the manufacture of salt to certain localities, where it could be effectually controlled. From these stations it was often carried immense distances by land carriage, which alone would have raised the price enormously, without the intervention of the tax gatherer. But when it is considered that the heavy duty had to be advanced by the dealers immediately on the salt carts leaving the precincts of the salines, it must be evident that the consuming population was doomed to a heavy fine, in order to indemnify the purveyors for this inconvenient arrangement.

The prime cost at the salines on the coast of Brittany is stated to have been latterly but 1 fr. per quintal, or about 18s. 6d. per ton. At this price, the profit on the fixed capital invested in the pits in which the sea water is allowed to evaporate, did not exceed 3½ per cent., when the owner himself worked the pits.

The smaller proprietors of the *Marais salants* and their workpeople are represented as very poor, being greatly exposed to casualties in their trade from rain and storms. An increased demand was, therefore, very desirable for their sakes; but as it is not so easy to supply a double consumption from the rude materials employed in this branch of manufacture in France, it is likely that a large foreign importation will take place, to which the French will have the less objection that it forms now the only chance the Government retains of getting a revenue. The margin offered to our shippers is to be sought in the cost of carriage which tends greatly to increase the price at present, while our vessels discharging at the termini of the great railways, can distribute over a great portion of the north, at least, their welcome cargoes.

The agricultural statistics of France show that the cattle of that country ought to consume annually at least one-third of the quantity which we have shown is left for use in cooking. There are 9,936,500 head of horned cattle, and 38,000,000 of sheep and pigs, according to recent returns. The consumption of these animals ought, at least, to equal 1,125,500 kil., of about 2 lbs. each. As the consumption of these animals has hitherto been limited by the same pressure as that of men, a corresponding increase for farming purposes may be expected to follow the opening of the trade. The calculation at present stands thus, as far as the budget of the year is concerned:—The Minister proposed to reduce the duty on salt by two-thirds, or from 30 fr. to 10 fr. per quintal. He, consequently, speculated on more than an increased consumption, from 7 kil. to 10 kil. per head, if he was not to lose by the change.

The Chamber has abolished the home duty altogether. The Minister must, therefore, see what quantity of foreign salt would make up his deficiency. Supposing the consumption to double, there would be a quantity of 3,500,000 quintals to supply, which, if taxed at 3½ fr., would supply a revenue of 11,750,000 fr. Since the calculation, originally made by Messrs. Passy and Faucher, contemplated either a loss of revenue or a greater consumption than double the present quantity, we have here a loss of 48,250,000 fr., instead of the whole 60,000,000 fr., as some apprehend; while the increased consumption, whatever it be, still remains to be made up by the French saltmakers.

But 3½ fr. is the duty payable only by importers of salt in foreign vessels. From Belgium, salt is to pay only 2½ fr. per quintal. The great approximation to free commercial interchange, thus suddenly made, naturally indisposes all who are likely to profit by it to be censorious. Nor do we fear that, even with this differential duty in favour of Belgium, our merchants will find harbours enough where their salt will be welcome. Still it is amusing, that the Assembly could not separate without giving a token of the *animus* pervading the class of men out of whom its members were taken, and whose watchword is a dread of England's rivalry in every branch of industry. The differential duty, as it now stands, imposes a gratuitous loss to the revenue; since, unless the supply from Belgium is sufficient to lower the price of the quantity imported from England, the difference between the duties will go into the salesman's pocket, and the consumer will not be benefitted by the distinction drawn. The Minister was clearly powerless during the whole debate, in which the sense of the constituent Chamber was against him. But there is reason to believe that neither the present Cabinet, nor the President, would have drawn the distinction made, if they had been able to exert any influence in the Assembly. Perhaps the new Chambers may reconsider the vote.

QUICKSILVER MINES IN CALIFORNIA.—The American *Mining Journal* gives the following account of one of the quicksilver mines discovered in California, and which is the property of Mr. Forbes, the British Consul at Tepic:—"Mr. Forbes," it is stated, "is the owner of, perhaps, the richest quicksilver mine in the world, situated about 18 miles from this place (Rancho de la Paraisa Concepcion, California). The mine has been worked but a few months, but the ore is extremely rich and very abundant. The bed of ore is 42 ft. thick, and of extent unknown. The only apparatus at present used for extracting the metal consists of three or four old potash kettles, very imperfect; yet with these over 1000 lbs., or 82000 worth, are obtained weekly. With suitable apparatus, it could clear easily half a million dollars a year. Several other mines of quicksilver have been found in the neighbourhood, of more or less promise, but none of them, apparently, so rich as this. They are mostly, with the exception of that of Mr. Forbes, in the hands of Americans. Mr. Forbes owns a tract pertaining to his mine of 14 square miles."

PEARLS AND MINERALS IN CALIFORNIA.—Pearl-fishing is the chief employment of the inhabitants about the bay of La Paz, and the pearls are said to be of superior quality. I was shown a necklace, valued at \$2000, taken in this water—they are all found by diving. The Yaqui Indians are the best divers, going down in 8 fathom water. The pearl shells are sent to China, and are worth at La Paz \$1½ the *arriba*, or 25 lbs. The mountains in the vicinity are said to be very rich in mineral. Some silver mines near San Antonio, about 40 miles south, are worked and produce well. La Paz may export \$100,000 a year of *platapina*. Gold dust and virgin gold are brought to La Paz. The copper and lead mines are numerous and rich. The island of Carmen, lying in front of Loreto, has a large salt lake, which has a solid surface of several feet thickness. The salt is of good quality, is cut out like ice, and it could supply the world. It has heretofore been a monopoly to the governor of Lower California, who employed convicts to get out the salt and put it on the beach ready for shipping. It is carried about a quarter of a mile, and is sent to Mazatlan and San Blas. A large quantity of salt is used in producing silver. In the vicinity of Los Angeles there are a number of warm springs which throw out and deposit large quantities of bitumen or mineral tar. This substance, when it cools, becomes hard and brittle like resin. Around some of these springs many acres of ground are covered with this deposit to the depth of several feet. It is a principal material in the roofing of houses. When thrown upon the fire it ignites immediately, emitting a smoke like that from tar-pentine, and an odour like that from bituminous coal. This mineral, so abundant in California, may one day become a valuable article of commerce. Mr. Tuxton showed me specimens of lead ore from which he moulds his bullets, taken from an inexhaustible mine in the Tular valley, some 60 miles distant from the mission of St. Ynez. It is certainly the richest ore I have ever seen, appearing almost like the pure metal.—Bryan's Tour in California.

TO PUBLIC COMPANIES, MERCHANTS, MINERS, &c.
—EVERY DESCRIPTION OF ACCOUNT BOOKS, requisite for the Government or Board-Room, manufactured to any pattern and ruling, hot-pressed, and bound in the most durable manner (pasted in type, without additional cost), on a scale of charges reduced to meet the times.—WRITING PAPERS, ENVELOPES, and STATIONERY, of the very best description, on the like reduced scale. Lists on application.
F. W. RALPH, COMMERCIAL STATIONER,
36, THROGMORTON-STREET, BANK, LONDON. 49

CARNE'S BULL HOTEL, 92, BISHOPSGATE-STREET-WITHIN, LONDON.

GEORGE CARNE, in announcing the REOPENING of this long celebrated HOTEL, which has been newly furnished, painted, and decorated throughout, begs to assure his friends, and strangers visiting the metropolis, that every effort will be used to afford them all the comforts of home. The Sleeping Apartments, to which special care has been directed, will be found equal to any in London, whilst the following List of Charges will show that every thing is conducted on the most economical scale.
Bed and Breakfast, 3s. per day; Dinner of two courses, and imperial half-pint of wine, at the ordinary, at half-past One, 2s.; private sitting-rooms, from 2s. per day.—Fixed charge for servants.
Porter and female attendant in waiting, for all the trains.
Wines, of the highest quality, drawn from the wood.—Plymouth Gin, and all other spirits, of the purest quality.

N.B.—Mine Agents having been side valuable Sets to bring before the public, will be introduced to parties likely to advance their interests.

CURE OF STAMMERING.—Mr. HUNT begs to announce, that he has returned to his London residence, No. 224, REGENT-STREET, for the season.—A PROSPECTUS, containing TESTIMONIALS, &c., of CURES effected at different periods during the last 22 years, will be sent, on application as above, to any part of the kingdom, free of expense.
Mr. Hunt attends pupils at Swanage, Dorset, during the months of July, August, and September.—224, Regent-street, Jan. 30, 1849.

CURE OF TWENTY-NINE YEARS' ASTHMATIC COUGH.
By Dr. LOCOCK'S PULMONIC WAFERS.—Middleton, near Manchester, July 29, 1847.—I am now 44 years of age, and I have been afflicted with an asthmatic cough since I was a boy, 15 years of age. During that time I have resorted to every means in my power to remove it, but in vain, until last Sunday, when I sent for a small box of Dr. Locock's Wafers. I have taken two boxes since, and, from the effects they have had upon me, I feel no doubt of a speedy recovery.—G. STRATTON. Dr. Locock's Wafers give instant relief, and a rapid cure of asthma, coughs, and all disorders of the breath and lungs.—To singers and public speakers they are invaluable, for clearing and strengthening the voice; they have a pleasant taste.—Price 1s. 11d., 2s. 9d., and 1s. per box.
Agents: De Silva & Co., 1, Bridge-lane, Fleet-st., London; sold by all medicine vendors.

RAILWAY CALLS.—The amount, so far as yet advertised, for the month of February, is 1,302,276l. In the corresponding month of last year the total was 2,272,542l.; and in 1847 it was 1,338,025l.

CALIFORNIA.—Among the numerous projects which have been put before the public since the gold mania set in, the very absurdity of which, in many instances, were too self-evident to admit of doubt as to the objects of the projectors, who evidently looked rather to the gold to be acquired in England, than any they might contemplate in the newly-discovered gold region, one prospectus has been placed in our hands, which we think deserving of notice, inasmuch that there appears something legitimate about it, although we think the projectors carry their views a little too far, but which will, doubtless, be rectified, as we have no doubt will be found necessary in working out the scheme. The present company is the first projected, at least in this country, which appears to have considered that "all is not gold that glitters," and that mercantile transactions, properly conducted, are equally calculated to fill the purse as the beds of the rivers and ravines; hence the project under notice. It appears that negotiations are at the moment pending with the American Government, with the object of obtaining a grant of land in Upper California, with the view to the formation of colonisation; and by the necessary outlay for the erection of storehouses and depots at San Francisco, and other points, to afford accommodation to emigrants, and, in fact, becoming shipowners, merchants, and agents, thus facilitating the objects of those who may visit this highly-favoured clime. The pursuit of gold-hunting will, it appears, not escape the attention of the company, but we think they will do well if they confine their operations to the early part of their prospectus, as with good management, if well supported, wealth may be said to be within their grasp.

GOLD REGION OF TEXAS.—If we may credit the traditions of the Indians and the historical records of the Spaniards, the gold region of Texas, on the Rio Puerco, is as rich in the precious metals as the now celebrated mines of Feather River and Alta California. The ruins of an extensive city, reared in ancient days, like the famous Tadmor of the desert, rise in lonely grandeur in this wild region, and bear silent but positive testimony that something more than agriculture was the basis of its prosperity. The turrets, spires, and domes of this once populous city still remain, but desolate of everything that betokens civilized life. The wild deer, antelope, and mustang browse the herbage which grows luxuriantly in its deserted streets, and the savage Camanche, or Kioway, pitches his rude lodge beneath its now dismantled ramparts. This city is the Grand Quivira of the Spaniards, and was founded soon after the conquest of Mexico by Cortes. The Spaniards penetrated into this region, and established flourishing settlements at a very early day, and almost immediately after, the city of Mexico and adjoining provinces were organized into a Spanish viceroyalty. The Spaniards of that day were not stimulated by a desire to acquire mineral wealth, and they made few settlements in districts that were destitute of valuable mines of the precious metals. Their conquests all had one object—mineral treasures. Gold and silver were sought for in all parts of the new world, where their arms could penetrate. The country around Grand Quivira is an arid, wooded plain, and there is no spring of water or stream within ten miles of the city. There are no traces of cultivated fields. For what object then were these huge structures erected? The answer must be found in the character of the Spanish conquerors and their history. They were erected for mining purposes. There is still a tradition current among the Mexicans, that there were several millions of pounds of gold and silver collected at this city, when the terrible insurrection of the Indians broke out, in the month of August, 1680. The city was surrounded by an immense army of Indians, and after a long siege, all the inhabitants were murdered except two, who escaped to tell that the inhabitants had been slaughtered, and that the immense treasures of gold and silver were buried in the ruins. There are positive evidences that there is a rich mining region on the Puerco, and we hope, by calling the attention of our enterprising fellow-citizens to the subject, to induce them to explore this region, and possibly they may be rewarded with as full success as that which has attended the exploration in California. The chain of granite mountains that stretches southward from Teos to the mouth of the Puerco, resembles in its geological features, the chains of the Andes mountains that contain the richest gold mines of Mexico. Several places have long been worked in these mountains, below Santa Fe, and large quantities of gold, in small grains, have been washed from the auriferous sands in the valleys that traverse them.—Houston Telegraph.

NEW PATENTS.

P. F. Gougey, gent., Paris, for improvements in apparatus and machinery for lifting and moving heavy bodies, and for raising and displacing fluids.
R. A. Brooman, of the Patent Office, Fleet-street, London, patent agent, for certain improvements in the manufacture of artificial limbs. (Being a communication.)
J. G. Gibson, Ardwick, near Manchester, machinist, for certain improvements in machines used for preparing to be spun and spinning cotton and other fibrous substances, and for preparing to be woven and weaving such substances when spun.
A. Wilkins, brewer, and W. Stacey, engineer, both of Bradford, Wilts., for certain improvements applicable to heating and boiling of liquids of any kind or description.
L. W. Wright, Chalfont, Gloucestershire, civil engineer, for improvements in preparing various fibrous substances for spinning, and machinery or apparatus connected therewith.
W. Kenworthy, Blackburn, Lancashire, cotton spinner, for certain improvements in power looms for weaving.
H. Bessemer, Baxters-house, Old St. Pancras-road, Middlesex, engineer, for certain improvements in the manufacture of glass, and in apparatus connected therewith.
E. Riepe, Finsbury-square, Middlesex, merchant, for improvements in the manufacture of soap.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

M'Adam Brothers and Co., Soho Foundry, Belfast, eccentric tappets for steam-engines.
J. Hyman, 6 and 7, Princes-square, hexagonal hinged box for matches.
W. Riddle, Whitefriars, portable font, or wine handle.
W. Dixon, Liverpool, window ventilator.
T. Ash, Birmingham, system for stair-carpeting.
Foot, Moxon, and Vincini, Brick-lane, Whitechapel, steam pressure gauge.
R. and E. Alcock, Doctors' Commons, bath improver.
S. Sheppard, Birmingham, tap.
Barwell and Co., Northampton, Eagle Foundry, heat-diffusing stove.
J. Robinson and Co., Commercial-road East, improved walcotest.
E. Rogers, Abercorn, Monmouthshire, rest for the forward ends of loaded carriages while being tipped.—Mechanics Magazine.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 10—Charlotte 13—Chester Main 14—East Adair's Main 12 6—Jonasohn's Hartley 12 6—New Tanfield 13—Original Tanfield 11 6—Ord's Redheugh 12 6—Smith's Ponton 11 6—Tanfield Moor 13—Tanfield Moor Butes 13 6—Walker's Primrose 12 6—West Hartley 12 6—Walt's End Brown's 12—Brown's Gas 12 6—Framwellgate 14 6—Killingworth 12 6—Eden Main 15—Belmont 15 6—Bradley's Hartley 15 6—East Hutton 14—Lyons 15—Hawwell 16 3—Russell's Hutton 15 9—Stewart's 16—West Keppier 14 9—Whitwell 13 9—Caradoc 15 6—Cassop 15 6—Kelloe 15 3—South Hartlepool 14 6—Thornley 14 9—Trimdon 13—Adelaide Tees 15 6—Tees 15 9—Whitwell 13 6—Wilton Park 14 6—Corpen Hartley 15—Hartley 14 6—Howard's West Hartley 14 6—Ships at market, 240; sold, 83.

WEDNESDAY.—Buddle's West Hartley 15—Davison's West Hartley 15—East Adair's Main 12 6—Hartlepool 15—Hastings Hartley 15—Jonasohn's Hartley 12 6—New Tanfield 12—North Ferry Hartley 14 3—Ord's Redheugh 12 6—South Ponton 11 6—Tanfield Moor 13 6—Walt's End Brown's 12—Brown's Gas 12 6—Framwellgate 14 6—Killingworth 12 6—Eden Main 15—Belmont 15 6—Bradley's Hartley 15 6—East Hutton 14—Lyons 15—Hawwell 16 3—Russell's Hutton 15 9—Stewart's 16—West Keppier 14 9—Whitwell 13 9—Caradoc 15 6—Cassop 15 6—Kelloe 15 3—South Hartlepool 14 6—Thornley 14 9—Trimdon 13—Adelaide Tees 15 6—Tees 15 9—Whitwell 13 6—Wilton Park 14 6—Corpen Hartley 15—Hartley 14 6—Howard's West Hartley 14 6—Ships at market, 273; sold, 91.

FRIDAY.—Adair's Main 13—Hastings Hartley 15—Holtwell Main 15—New Tanfield 12—Original Tanfield 10 6—Ord's Redheugh 12 6—Ravenworth's Pelaw 14 3—Stewart's Hartley 14 6—South Ponton 11 6—Tanfield Moor 13 6—Walt's End Brown's 12—Brown's Gas 12 6—Framwellgate 14 6—Killingworth 12 6—Eden Main 15—Belmont 15 6—Bradley's Hartley 15 6—East Hutton 14—Lyons 15—Hawwell 16 3—Russell's Hutton 15 9—Stewart's 16—West Keppier 14 9—Whitwell 13 9—Caradoc 15 6—Cassop 15 6—Kelloe 15 3—South Hartlepool 14 6—Thornley 14 9—Trimdon 13—Adelaide Tees 15 6—Tees 15 9—Whitwell 13 6—Wilton Park 14 6—Corpen Hartley 15—Hartley 14 6—Howard's West Hartley 14 6—Ships at market, 304.

CUNNINGHAM AND CARTER'S NEW SYSTEM OF RAILWAY PROPULSION.—Railway Directors, Engineers, and the public generally, are invited to examine this system, which may be VIEWED on Mondays, Wednesdays, and Saturdays, from half past Eleven to Three o'clock, at Ingram's Manufacturing Works, CITY-ROAD, near Finsbury-square.

SUNDERLAND DOCK COMPANY.—LOANS ON DEBENTURES.—The directors of the SUNDERLAND DOCK COMPANY are prepared to RECEIVE TENDERS OF LOANS, in sums of £500 and upwards, for periods of three years; and in sums of smaller amount for periods of five years—to be secured on the company's debentures, bearing interest at the rate of 45 per centum per annum, payable half-yearly.
Application to be made to the secretary, at the Dock Offices, 12, Sunnside, Sunderland.
By order, MICHAEL COXON, Secretary.
Sunderland, Jan. 10, 1849.

STEAM TO INDIA AND CHINA, via EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS TO CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG. THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 30th of every month; and from Suez on or about the 10th of the month.
BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 9th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honorable East India Company's steamers.
MEDITERRANEAN.—MALTA—On the 20th and 29th of every month. CONSTANTINOPLE—On the 29th of the month. ALEXANDRIA—On the 20th of the month.
SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th, 17th, and 27th of the month.
For plans of the vessels, rates of passage-money, and to secure passages, and ship cargo apply at the company's offices, No. 123, Leadenhall-street, London; and 57, High-street, Southampton.

NOTICE TO SHIPPERS OF GOODS AND PARCELS.
per PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY'S STEAMERS, TO INDIA AND CHINA.—GOODS and PARCELS sent direct to the company's parcel office, on or before 6 P.M., on the 17th of each month, are forwarded at less cost to shippers than when sent upon any intermediate channel. Cases must not exceed 180 lbs. weight each, for Aden, Ceylon, Madras, Calcutta, and China; and 40 lbs. each case for Bombay. No cargo for India or China can, under any circumstances, be shipped at Southampton, unless it be cleared through the Custom-house, and placed alongside the steamer by noon on the 19th of each month.
Detailed particulars can be obtained on personal application, or by writing.
Parcel Department, 123, Leadenhall-street.

EMIGRATION FACILITATED.—Those persons who expect their friends in AUSTRALIA to assist them in their OUTFIT, might write to their friends there to pay the money into the hands of S. W. SILVER & CO.'S AGENTS in AUSTRALIA, or to their connections in the district, who would be named on application to S. W. SILVER & CO., in London. The agents acknowledge would be received by S. W. SILVER & CO., as CASH at the exchange of the day, for the OUTFIT. This proposal will be also communicated through the COLONIAL JOURNALS. EMIGRANTS' fitting-out warehouse at No. 4, Bishopsgate-street (opposite the London Tavern), where colonial information may be obtained, and small parcels received and forwarded to the colonies.
N.B.—CADETS to INDIA, and CABIN PASSENGERS generally to all parts of the globe (with experienced Female Managers in the Department for Ladies), stand off as heretofore at 66 & 67, Cornhill, by S. W. SILVER & CO., OUTFITTERS, CLOTHIERS FOR HOME USE, and CONTRACTORS; and at St. George's-crescent, LIVERPOOL.
ROBERT WARRINGTON, Secretary, Apothecaries' Hall, Blackfriars.

GEMELIN'S HAND-BOOK OF CHEMISTRY.—The FIRST VOLUME of the Translation of this WORK may now be had by Members of the Cavendish Society, in addition to the volume of Chemical Reports and Memoirs already distributed, being the first year's publication of the society (1848).
OFFICE of the SOCIETY, at Mr. John Joseph Griffin's, 53, Baker-street, Portman-square, where members not supplied by the Honorary Local Secretaries may receive their books on application. Gentlemen may also enter their names as members, and obtain the works of the society, by application, and the payment of the annual subscription, to Mr. Griffin, as above; or to Mr. Burton, 146, Holborn-lane; Mr. Simpson, 1, Kensington-road; Messrs. T. and R. Willats, 98, Cheapside.
ROBERT WARRINGTON, Secretary, Apothecaries' Hall, Blackfriars.

GEOGRAPHICAL AND MINERALOGICAL NOTES, to ACCOMPANY MR. WYLD'S MAP OF THE GOLD REGIONS OF CALIFORNIA.
London: Published by James Wyld, Geographer to the Queen and Prince Albert, Charing-cross East, and 2, Royal Exchange; and Simpkin & Marshall, Stationers'-court, Price One Shilling; with Map, Three Shillings.

LONDON AND NORTH-WESTERN RAILWAY.
Mr. WHITEHEAD'S THIRD LETTER, addressed to GEO. CARE GLYN, Esq., M.P., entitled RAILWAY MANAGEMENT.—The PROOF, is now published by Smith, Elder, and Co., 65, Cornhill.
The Sixth Edition of RAILWAY GUARANTEE can be had only of Mr. M. Whitehead (the author), No. 2, Royal Exchange-buildings.

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By GEORGE KING.
London: E. F. Gooch, 55, King William-street, City; and sold by Simpkin and Marshall, Stationers' Hall-court.

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IMPORTANT TO MINE OWNERS, &c.
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CITY-ROAD, LONDON.

THE GUTTA PERCHA COMPANY beg to bring under the notice of Mine Owners, Manufacturers, &c., the GREAT SAVING, both of time and expense, which is effected by the use of the GUTTA PERCHA PUMP BUCKETS and VALVES. These Buckets may be had of any size or thickness, without any seam or raised joint. They are unaffected by acids, alkalis, &c. Cold water will never soften them, and they are, consequently, much more durable than leather, and also cheaper. The most gratifying testimonials have been received from millowners, who have had these Buckets in operation for several months past, without the slightest repairs being required.
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Continue to secure a continually increasing demand; they can be had of any size or length. Their durability and strength, potentiated by the uniformity of substance, their non-susceptibility of injury from contact with oils, grease, acids, alkalis, water, and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior for almost all working purposes, and decidedly economical.
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The Razor is made of the finest tempered steel, imparting a matchless smoothness and keenness to the edge; and the addition of the Guard causes the Razor to glide with safety over the face, removing the beard without the possibility of cutting the skin.
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J. L. Curtis, On Manhood, and the Causes of its Premature Decline, with Plain Directions for its Perfect Restoration.—(Strange, Paternoster-row.)—This is a book replete with valuable advice and information. It develops the federal bonds on which the large proportion of human happiness is wrecked, and furnishes a charter by which they may be avoided and escaped. Fortunate for a country would it be, did its youth put into practice the philanthropic and scientific maxims here laid down. One cause of matrimonial misery might then be banished from our land, and the race of the overate be succeeded by a renewal of the hardy vigorous spirits of the olden time.—*United Kingdom Magazine*.

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Published by the author, and may be had at his residence; sold also by Strange, 21, Paternoster-row, London; Heywood, Oldham-street, Manchester; Philip, South Castle-street, Liverpool; Robinson, 11, Oldmead-street, Edinburgh; Campbell, chemist, 146, Argyle-street, Glasgow; Berry and Co., Capel-street, Dublin; and by all booksellers.

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